

Arts Based Intervention in Undergraduate Education

Collaboration between Broken Hill University Department of Rural Health, University of Sydney and West Darling Arts is an initiative to increase skills, knowledge and attitudes of health professionals by introducing an art programme to compliment undergraduate curricula.

Authors: Paul Bennett, Kerry Bolte, Dr. David Garne, James Giddey.

Abstract

This paper reports on the evaluation of the art and health component of the ENRICH (Enhanced Rural Remote Inter-professional Cultural Health) Programme. The ENRICH programme is a collaboration between Broken Hill University Department of Rural Health and West Darling Arts. ENRICH provides inter-professional learning opportunities for health science students of all disciplines to participate in multi-disciplinary learning that complements the requirements of the individual student's curricula. Art and health sessions are facilitated by local artists, and to date have included life drawing, photography and Aboriginal art. This pilot study is to determine if the inclusion of art topics into training curricula for undergraduate health science students is relevant and beneficial in their clinical practice. Published literature indicates the benefits of using art to enhance the healing process across a range of illnesses and disease including Indigenous populations. ENRICH sessions enhance health science student's ability to recognise and appreciate the non-clinical aspects of healing, and broaden their appreciation of the holistic nature of health care. The programme links established artists with health science students in a supported environment that develops community engagement within the rural context. The programme encourages students to gain a sense of community and feel connected.

Keywords:

Undergraduate students, Resilience, Art and Heath, Curricula, Rural, Community Engagement

Introduction: Art and Health:

Art and health is a relatively unexplored area within the health agenda. There has been a significant focus on art as a form of therapy for patients; the benefits have been documented (Van Lith, Fenner et al. 2008). In this context the key principles have been cultural engagement, social inclusion and the impact of creativity on the psychological aspect and well being of patients.

However it seems these same principles have not been applied to the health providers. Although health providers may not have the same health needs as their patients, exposure to the arts could result in a more effective understanding of health issues and be a valuable component of responsiveness and compassion.

Great artists such as Leonardo Da Vinci used cadavers to gain an understanding of the human form and functionality. The knowledge was reproduced in his paintings and sculptures.

Da Vinci's drawings and insights (along with other artists who followed him) have been used by the medical profession for centuries as teaching tools.

There is a reported link between Da Vinci and the anatomist Marc Antonio Della Torre in the 1500's that saw the pair collaborate to produce numerous manuscripts in anatomical studies (da Vinci and edited by Richter JP 1880).

In more recent times American realist painter Thomas Eakins (1844 – 1916) and surgeon William W. Keen (1837 – 1932) collaborated to record surgical operations and cadaver dissections. Thomas Eakins produced detailed sketches and paintings of these events along with plaster reproductions of bones, veins and specific muscles for use in medical training. Textbooks contained layered drawings for students to explore deeper and deeper into the human form (Kimball 2001; Fisher Wilson 2011) thus incorporating art and health.

The scientific advancement of health has lead to the exclusion of non-clinical forms of health care from the toolkit of medical professionals (Downie 1999; Cox, Lafreniere et al. 2010). Recently there has been an inclusion of humanities subjects such as literature, painting, performing arts and narrative works into curricula as an elective topic or as part of a post-graduate programme (Sackett, Rosenberg et al. 1996; Freeman and Bays 2007).

Today technology such as X-rays, CT scans and MRI scans, allow medical professionals to look even more deeply into the workings of the human body resulting in a separation of medical and other health professions from the sphere of artists. It seems our understanding of the human body is greater than ever before. However, are we poorer for the technology and perhaps less whole? In this regard, have health professionals lost some important skills such as empathy and compassion in the care of the individual? (Bloch 2004; Magin, Shah et al. 2005)

Aim:

This paper reports on the evaluation of the art and health component of the ENRICH (Enhanced Rural Remote Inter-professional Cultural Health) programme.

ENRICH provides inter-professional learning opportunities for health science students of all disciplines to participate in multi-disciplinary learning that complements the requirements of the individual student's curricula. Art and health sessions are facilitated by local artists in the far west region of New South Wales; to date these sessions have included life drawing, photography and Aboriginal art.

The aims of the art in health sessions are to measure the impact on participant's confidence, rapport and communication skills in the interaction between the health professional and patient. This pilot study is to determine whether the introduction of art topics into the training curricula of undergraduate health science students is relevant and beneficial to their clinical practices.

The sessions are designed to provide a fresh approach to teaching generic skills such as communication, rapport, observation, interpretation and analysis of issues early in the student's career development.

Attendance and participation in the ENRICH programme is voluntary; the programme takes in two semesters each year.

Relevance:

The programme enables health science students to maximise their experience during their learning placement in rural/remote settings.

Published literature indicates the benefits of art in the enhancement of the healing process across a range of illnesses and disease inclusive of indigenous populations. Art and health sessions bridge the gap between clinical and non-clinical education and boosts the ability of health science students to recognise and appreciate the non-clinical aspects of healing and broaden the holistic nature of health care (Rudolf and Starr 2003; Jensen and Curtis 2008).

Literature Review:

The majority of arts programmes incorporated into undergraduate studies are focused on the medical profession, followed closely by nursing. Performing arts such as music and drama have been identified as developing empathy in students, while literary art such as poetry has been used to humanise physicians (Freeman and Bays 2007). Nursing literature reports positive impacts around empathy from the inclusion of arts topics into curricula (Wikstrom 2003) and the expression of personal philosophies of nursing leads to growth as a professional and person (Whitman and Rose 2003).

Results from Evaluations:

Participants: 71% medical, 21% allied health, 8% nursing.

Methods: Qualitative and quantitative data was collected using a post evaluation survey for each *Art in Health* session (N=6 in 2010/2011). Participants consisted of health science students from a range of disciplines during placement in far western New South Wales. Data was analysed using Survey Monkey and Nvivo8 qualitative analysis software.

Results from the evaluations indicate that the art in health component of the ENRICH programme has been positive. Most participants agreed that the sessions were relevant to their practice and identified art techniques that could be incorporated into the structure of health science.

Two themes emerged from the evaluation:

- Connection
- Perception

Participants agreed that the sessions assisted them to develop attributes such as enhanced communication, self-reflection and resilience and further developed observation skills and empathy.

Art in health sessions have met the aims and objectives of the intervention by refining the links established between artists and health science students in a supportive environment and develops community engagement within the rural setting. The programme encourages students to gain a sense of community and identify a connection.

The collaboration effort between art and health in far western NSW is unique in Australia in that it leads the way to include art-based activities for undergraduate health and science students and to have these activities incorporated into the health science curricula.

Context:

In an effort to encompass innovative teaching methods that are on a par with the programmatic approach to health education at the Broken Hill University Department of Rural Health (BHUDRH), art and health sessions are incorporated into the existing pioneering education programme for undergraduate health professional students.

The ENRICH programme is a collaborative effort between BHUDRH and West Darling Arts. The concerted effort of the collaboration is to provide an adjunct to clinical education and to encourage lateral thinking when students are faced with complex situations in the health management of their patients.

Broken Hill has a rich history not only in mining but also in the arts. There are a number of world famous artists in residence in the city and the art community has readily embraced the links with the health sector through the art and health sessions of the ENRICH programme.

BHUDRH has for a number of years operated a successful multi-disciplinary rural clinical placement programme in far western New South Wales (Lyle, Morris et al. 2006) that initially concentrated on short term student placements. More recently, the focus has shifted to longer medical student placements, with other health disciplines lengthening their student placements to an average of six to eight weeks.

The Broken Hill Extended Clinical Placement Programme (BHECPP) was launched in June 2009 as part of an ongoing development process. BHECPP provides six or twelve months extended placement for third year medical students from Sydney, Adelaide and Wollongong Universities. These students have indicated a significant interest in rural health and far from merely volunteering to have rural placement the students apply for a small number of available BHECPP positions. The selection criteria and vetting process is rigorous and completion for places can be fierce.

The ENRICH programme was developed for BHECPP to give students from a range of health science disciplines a grounding in rural/remote and indigenous health issues delivered as inter-professional leaning (McCallin 2001; Halabisky, Humbert et al. 2010). The programme centres on the impact, challenges and benefits of a rural/remote setting on health service provision and a collaboration of services whilst promoting an understanding of Indigenous health determinants. ENRICH seeks to involve existing teaching resources within its framework and includes academic and non-academic lectured/facilitators both local and visiting.

Intervention:

This paper focuses on the art and health component of the ENRICH programme and the evaluation of the sessions. Of the forty ENRICH sessions held over three semesters between 2010 and 2011, six were art and health motivated. A local artist and one support staff of BHUDRH facilitated all the sessions. Three sessions involved life drawing with a professional female model; two workshops were photography. The remaining workshop focused on Aboriginal art and culture; this was coordinated by a local Aboriginal artist and included an anthropologist and a local didgeridoo musician.

Participation in the evaluation of the pilot study by BHUDRH into the art and health component of the ENRICH programme was voluntary. The aims of the evaluation were explained to the participants at the beginning of each session with participants being free to withdraw at any time, the completion of the evaluation was considered to imply consent to be involved in the pilot study.



Methods:

Participant information was given verbally to all participants attending the art and health sessions for the first time. This information consisted of the purpose of the sessions, including the aims and objectives. The information was repeated on the evaluation sheets. Evaluations were anonymous and voluntary.

A mixed method approach was applied to the collection and analysis of data. Qualitative and quantitative data was collected simultaneously during one phase using post evaluation survey methods for each of the six art and health sessions held between 2010 and 2011 (Creswell 2009). Participants consisted of health science students from a range of disciplines that were on placement in far western NSW.

All health science students who attended an ENRICH activity were asked to complete a post participation survey. Data from these surveys was analysed using data-management software as identified in the ‘Results from Evaluations’ segment of this report.

Collected qualitative and quantitative data was not merged in this pilot evaluation leaving both data sets as *stand alone* entities for analysis (Patton 2002; Creswell 2009).

Each survey contained a series of questions designed to elicit basic demographic data as well as more complex concepts from participants using targeted questions that allowed extended responses in the evaluation. Demographic data consisted of gender of participants, year of study and specific discipline of each participant.

The survey also asked participants to rate the workshop content on a Likert scale of one to five, with one being – ‘strongly disagree’ to five being – ‘strongly agree’ (Sarantakos 1998). Specific questions focused on whether the workshop activity was relevant to the participant’s current workload, whether it had helped them to develop valuable attributes such as communication skills, reflecting and enquiring.

In addition, participants were asked to rate how confident they felt using the skills they developed through the workshop. Additional questions that allowed extended answers from participants included whether they thought they would integrate skills learnt in the workshop into their professional practice.

Participants were also given the opportunity to suggest improvements to the workshop. An administration assistant trained in the process of data entry recorded the results of the surveys into Survey Monkey. One of the authors of this paper entered the qualitative component of the survey into Nvivo8 data management software where it could be accessed by all other authors.

Results:

Of the six ENRICH art and health sessions there were 39 participants, with 25 completing a post-session evaluation (64% response rate).

- 70% of participants were female
- 71% were medical
- 21% allied health
- 8% nursing students

Of the responders to the post-evaluation survey,

- 61% moderately/strongly agreed that the art in health sessions were relevant to their current workload
- 90% of responders agreed that the session helped them develop valuable generic attributes (communication, self-reflection and questioning skills – based on evaluation question criteria).
- 79% moderately to strongly agree that they felt confident to use the skills developed during the sessions in their day-to-day practice.

Nvivo8 data management system was used to analyse the qualitative component of participant evaluations. Participant responses were loaded into Nvivo8 as text and viewed individually, with key words emerging as analysis progressed.

Recurrent themes emerged from the data. Participants were asked to discuss the relevancy of the sessions to their current workload, whether the sessions helped them to develop specific attributes such as communication skills, reflection and questioning, and whether they felt confident to use the skills developed in the sessions. They were also asked to add overall comments on the session.

Themes were identified and placed under eight headings of descending order:

- connecting
- rapport
- communication
- observation
- self
- culture
- empathy
- perception

Two key attributes emerged connecting and perception. Table 1 provides a selective view of participant's comments taken from responses in the evaluation to describe the changes that occurred with the participants.



Table 1 - Benefits identified by participants

	Connecting	Perception
Aboriginal Art	“Greater understanding of growing role of Art in developing Aboriginal community”	“Understanding of respect for the land and spiritual connection”
Drawing	“...progression through the various techniques (from basic to more technical) was great fun. Many thanks to the artists for their help and patience...”	“Spend more time assessing and 'looking' at clients as part of the evaluation process” “Perceiving the body as more than an object to be diagnosed”
Photography	“Great experience...”	“Establishing rapport, placing myself in the subjects/patients position relates to both medicine and photography”

Participants identified that the ENRICH art and health sessions allowed them to connect to their (sometime hidden) talents as amateur artists and to increase their perceptions and self-awareness pertaining to these skills and the surroundings in which they live and work. Also, as observers of patients in the clinical areas they felt that the sessions enabled them to hone their skills in observation and become more effective in their professional practice.

Building rapport, empathy and communication with patients emerged from participants when sessions responses were analysed. One of the participants talked of her increased understanding of Indigenous culture, and the relationship Indigenous people have with the land and its impact on their health.

Due to student's training program requirements, only three students were able to attend the Aboriginal art and health session; however, responses indicated that each participant gained additional understanding of cultural implications of art and its implications for Aboriginal health. As a one off session, and without more in-depth evaluation the Aboriginal art and health session stands in isolation and should not be generalized without further investigation.

Discussion:

Initial analysis of this pilot study into the art and health program indicated there were positive outcomes. Participants indicated through the evaluation that generic attributes such as observations skills, communication, self-awareness, and empathy for patients and others were important to them. It was ascertained that the session aided to increase their skills in these areas.

Response to the question of whether participants could incorporate knowledge from the sessions into their professional practice was also highly positive, although it is too early at this stage to generalise as to the long-term effect art and health sessions have on the ongoing skill levels of participants.

An inadvertent consequence of the sessions was the identification and development of a number of latent artists within the participant group. Some participants voiced their surprise at this discovery as they had not realised or had the opportunity to extend these attributes

beyond the structured academic arena. Future studies should look at this phenomenon with a focus on whether these skills build resilience in individuals and the long-term benefits of this for health professionals particularly in rural/remote settings.

Thematic analysis (Aronson 1994) of the qualitative data identified two key attributes:

- connecting
- perception

These attributes contained concepts that link participants to their colleagues and to the wider community through their patients.

Connecting involved increased observation skills for the participants, being increased communication skills and rapport development. Art and health sessions allow participants to expand the conceptual framework of themselves and of their patient's experience (Charon, Trautmann Banks et al. 1995; Bordage and Harris 2011) and to grow in self-understanding. This has larger implications around resilience (Jackson, Fritko et al. 2007; Hodges, Keeley et al. 2008) building in novice health practitioners and may lead to a reduction in burnout. As one participant put it, "I found this workshop very therapeutic for myself. I would integrate life skills into my professional practice as personal diversion from clinical work".

Perception included insight into the self and empathy development for their patients. As participants stated; "Perceiving the body as more than an object to be diagnosed" and "Establishing rapport, placing myself in the subjects/patients position relates to both medicine and photography". This indicates a growing awareness of the role of the patient as more than just a clinical object but rather more as a person.

The authors acknowledge that this pilot study has limitations concerning the number of session's evaluated and short duration of the study so far. However, respondent numbers of 25 to the evaluation is not insignificant within a qualitative research framework, which equates to a 64 % response rate for the evaluation. There is also the issue of the value of self-reported evaluations as those that did not complete the evaluation may have had valuable information to contribute further studies will need to take this into consideration (Eley, Hindmarsh et al. 2007).

The authors concede these limitations, as well as the uneven mix of health science students, with medical students outnumbering other health disciplines by almost 40%. A possible explanation for this is that medical students stay for extended periods of six to twelve months and form the core group of health science students on placement in the region. These students have a flexible programmable timetable that allows ENRICH sessions to become part of their weekly routine. Other students such as nurses and allied health have shorter placements (two to eight weeks), and are invited to attend ENRICH sessions whenever they are run. The intense focus on completing clinical competencies during placement appears to restrict groups such as nursing students from attending more ENRICH sessions.

Other limitations include the use of a post-survey to evaluate the art and health session of the ENRICH program, and its sole focus on health science students. Future research should take these limitations into consideration and decipher the possibility of extending the evaluation to participating artists and the wider community.

The ENRICH program will continue into 2012 and beyond. The authors propose a formal longitudinal evaluation of the program over the next few years. Lessons learnt from this pilot study will be incorporated into the larger study and will focus on the long-term implications of a structured arts program on a medical/nursing/allied health curricula and the impact on the skills, knowledge and attitude of health science students in the undergraduate and immediate post graduate areas.

One specific hypothesis that could be tested is whether participants do incorporate the experience into professional behaviour after they graduate, and what impact this has on their long-term practice.

This collaboration between the arts and health in far west NSW is unique in Australia and it is hoped that it is leading the way in developing well-rounded health practitioners who can recognise that non-clinical aspects of health have a place in self-resilience and the health and well-being of their patients.

Students have indicated through the evaluation that the sessions were pertinent to their clinical practice and have strengthened their understanding of the need for a holistic approach to health care by developing generic skills in establishing rapport and in turn develop a connection with patients through effective communication (Benson 2005). Participants agreed that the workshops were relevant to their clinical practice as health science students and skills developed could easily translate to their work environment.

The ENRICH art and health program aims to incorporate a holistic approach to undergraduate health science education particularly in rural/remote NSW. The programme enables health science students the opportunity to maximise their learning experience during placement in a rural/remote setting. Published literature indicates the benefits of using art to enhance the healing process across a range of illnesses and diseases, including Indigenous populations (Durey 2010; Eley and Gorman 2010). Students exposed to Indigenous art culture through this program have gained a deeper understanding of the holistic nature of Indigenous health and culture, and the non-clinical aspects of healing that are part of the cultural experience.

Conclusions:

Art and health sessions enhance health science student's ability to:

- recognise the non-clinical aspects of healing
- broaden their appreciation of the holistic nature of health care

The art and health program aims to incorporate:

- a holistic approach to undergraduate health science education
- established links with artists who are enthusiastic supporters of this programme with health science students in a supported environment
- develop community engagement within the rural setting
- encourage students to gain a sense of community and feel connected

In Broken Hill there is an established art culture and the art and health programme utilises existing resources in a positive way that draws local people into the training of metropolitan based health professionals, and at the same time encourages students to gain a sense of community and feel connected (Cahill 2005).

Art work produced by the students have been promoted in the local newspaper, local radio and during Art in Health month, November 2010, a number of works were displayed in the foyer of the Broken Hill Base Hospital.

Future events will include literature, creative writing, sculpture, movement and art observation in a structured way that sees each activity building on previous ones to shape a comprehensive series of art based events that support community engagement for health science students on rural placement.

Acknowledgements:

The Authors wish to thank Ms Barbara DeFranceschi for her creative input and support in the preparation of this paper.

References:

- Aronson, J. (1994). "A Pragmatic View of Thematic Analysis." *The Qualitative Report* 2(1).
- Benson, J. (2005). "Concordance: An alternative term to 'compliance' in the Aboriginal population." *Australian Family Physician* 34(10): 832-835.
- Bloch, S. (2004). "Cultivating Empathy." *Meanjin* 63(4): 122-129.
- Bordage, G. and I. Harris (2011). "Making a difference in curriculum reform and decision-making processes." *Medical Education* 45(1): 87-94.
- Cahill, H. (2005). "Profound Learning: Drama Partnerships Between Adolescents and Tertiary Students of Medicine and Education." *Nursing Journal* 29(2): 59-71.
- Charon, R., J. Trautmann Banks, et al. (1995). "Literature and Medicine: Contributions to Clinical Practice." *Annals of Internal Medicine* 122(8): 599-606.
- Cox, S., D. Lafreniere, et al. (2010). "Tipping the iceberg? The state of arts and health in Canada." *Arts in Health* 2(2): 109-124.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Thousand Oaks Sage.
- da Vinci, L. and edited by Richter JP. (1880). "The Notebooks of Leonardo da Vinci XIV." *XIV* Retrieved 24 June 2011, from <http://www.fromoldbooks.org/Richter-NotebooksOfLeonardo/section-14/>.
- Downie, R. (1999). "The role of literature in medical education. A commentary on the poem: Roswell, Hanger 84." *Journal of Medical Ethics* 25(6): 529-531.
- Durey, A. (2010). "Reducing racism in Aboriginal health care in Australia: where does cultural education fit?" *Australian and New Zealand Journal of Public Health* 34(S1): S87-S92.
- Eley, R. and D. Gorman (2010). "Didgeridoo Playing and Singing to Support Asthma Management in Aboriginal Australians." *Journal of Rural Health* 26(1): 100-104.
- Eley, R., N. Hindmarsh, et al. (2007). "Informing rural and remote students about careers in health: The effect of Health Careers Workshops on course selection." *Australian Journal of Rural Health* 15(1): 59-64.
- Fisher Wilson, J. (2011). "A Model Body - When artists and doctors work together, both sides win." *The Smart Set* Retrieved 12 April 2011, from <http://www.thesmartset.com/article/article03161102.aspx>.
- Freeman, L. H. and C. Bays (2007). "Using Literature and the Arts to Teach Nursing." *International Journal of Nursing Education Scholarship* 4(1): 1-14.
- Halabisky, B., J. Humbert, et al. (2010). "eLearning, Knowledge Brokering, and Nursing: Strengthening Collaborative Practice in Long-term Care." *Computers, Informatics, Nursing* 28: 264-273.
- Hodges, H., A. Keeley, et al. (2008). "Professional Resilience in Baccalaureate-Prepared Acute Care Nurses: FIRST STEPS." *Nursing Education Research* 29(2): 80-89.
- Jackson, D., A. Fritko, et al. (2007). "Personal resilience as a strategy for surviving and thriving in the face of workforce adversity: a literature review." *Journal of Advanced Nursing* 60(1): 1-9.
- Jensen, A. and M. Curtis (2008). "A Descriptive Qualitative Study of Student Learning in a Psychosocial Nursing Class Infused with Art, Literature, Music and Film" *International Journal of Nursing Education Scholarship* 5 (Article 4).
- Kimball, R. (2001). "Thomas Eakins (1844-1916)." *National Review* Retrieved 24 June 2011, from <http://www.artchive.com/artchive/E/eakins.html>.
- Lyle, D., J. Morris, et al. (2006). "Value adding through regional coordination of rural placements for all health disciplines: The Broken Hill experience" *Australian Journal of Rural Health* 14: 244-248.
- Magin, P., N. Shah, et al. (2005). "A literature in medicine elective: undergraduate medical students' performance of a literature in medicine elective task during a general practice clinical attachment." *Focus on Health Professional Education: A Multi-disciplinary Journal* 6(3): 18-21.
- McCallin, A. (2001). "Interdisciplinary practice - a matter of teamwork: an integrated literature review." *Journal of Clinical Nursing* 10: 419-428.
- Patton, M. (2002). *Qualitative Research & Evaluation Methods*. Thousand Oaks, Sage.

- Rudolf, M. and E. Starr (2003). "Tell me a story...What can paediatricians gain from reading stories?" Archives of Diseases of Childhood **88**: 635-637.
- Sackett, D., W. Rosenberg, et al. (1996). "Evidence based medicine: what it is and what it isn't." British Medical Journal(312): 71-72.
- Sarantakos, S. (1998). Social Research. Melbourne, MacMillan Publishers Australia.
- Van Lith, T., P. Fenner, et al. (2008). Creativity, the arts and art therapy in mental health recovery: Developing a research agenda. Melbourne, La Trobe University.
- Whitman, B. and W. Rose (2003). "Using art to express a personal philosophy of nursing." Nurse Educator **28**: 166-169.
- Wikstrom, B. (2003). "A picture of a work of art as an empathy teaching strategy in nurse education complementary to theoretical knowledge." Journal of Professional Nursing **19**: 49-54.