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Risky Journeys: The Development of Best Practice Adult Educational Programs to Indigenous People in Rural and Remote Communities

Roselyn M. Dixon
University of Wollongong, roselyn@uow.edu.au

Sophie E. Constable
University of Sydney

Robert Dixon
University of Sydney

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Roselyn May Dixon, University of Wollongong, NSW, Australia
Robert John Dixon, University of Sydney, NSW, Australia
Sophie Constable, University of Sydney, NSW, Australia

Abstract: The findings from a culturally relevant innovative educational program to support community health through dog health are presented. It will report on the pilot of a program, using a generative curriculum model where Indigenous knowledge is brought into the process of teaching and learning by community members and is integrated with an empirical knowledge base. The characteristics of the pilot program will be discussed. These included locally relevant content, appropriate learning processes such as the development of personal caring relationships, and supporting different world views. Recommendations include the projected use of local Indigenous health workers to enhance the sustainability of the program.

Keywords: Indigenous Education

Introduction

EDUCATION HAS HISTORICALLY been used as a tool for assimilation in Australian Indigenous[1] communities (Keeffe 1992). Assimilation is an important issue as the effects and repercussions of attempts to assimilate Indigenous Australians into Euro-Australian society have been and continue to be deeply damaging to Australian Indigenous cultures. As Indigenous cultures are a source of strength for Indigenous peoples, it is important that education in minority communities support diversity, and counter assimilatory tendencies.

Dog health is an important part of Indigenous health in the holistic sense, impacting both in terms of zoonotic pathogens and community self image and mental health. As in human health, education is a critical determinant of pet health. The Healthy Dogs Healthy Communities Program (HDHCP) aims to work with Indigenous communities to develop culturally supportive, locally relevant education programs that support dog health in a number of ways. First, they promote good nutrition and dog care as the first step in a preventative medicine scheme for dogs. Secondly, they help to address the serious issues of preventable diseases and overpopulation. As a consequence they also address some of the major impacts on dog welfare in remote communities. Finally, they directly contribute to human health and welfare through knowledge of zoonoses, reduction in dog bite injuries and an improvement of community self esteem generated by healthy dogs.

Contemporary techniques in Indigenous education acknowledge both advances in Western learning research and thinking, as well as the importance of the local learning environment and Indigenous culture in order to produce optimum outcomes for indigenous contexts.

Enemburu (1991) makes the point that imposition of Western culture can result in the failure of the education program for that community. Bailey (2004) agrees, noting that when new knowledge is presented that conflicts with a person's world view, the new knowledge may be rejected. This is because people can be:

> emotionally attached to the beliefs, knowledges, values and world views that they developed over many years. Even when faced with soundly based information that contradicts long held beliefs, (...) learners are often more likely to reject or attempt to explain away such new information than to acknowledge [it]. (2004:218)

Trudgen (2003) goes further, proposing that the imposition of Western culture can be detrimental to the community itself, as it can lose its own cultural identity. The imposition of Western culture can challenge the cultural life of the community, creating conflict and weakening the community's independence and self-determination, their ability to take their

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[1] "Indigenous" is capitalised throughout this paper in reference to the Australian Indigenous context. Whilst potentially transferable to other indigenous contexts, this paper recognises the differences in indigenous cultures and does not assume applicability beyond the context of the study location.

destiny into their own hands (Wilkinson and Sidel 1991). For the Healthy Dogs, Healthy Communities program (HDHCP) working with Indigenous culture is, therefore, important to both avoid rejection of the program, and to support the health and long term goals of the community. This must be done both at the superficial level of locally relevant topics, as well as at deeper levels of teaching methods and environment, and fundamental values or world view.

Tindall's (2001) health and education program was aimed at controlling human scabies in an Indigenous community. Though knowledgeable of the need to involve the community for program success, this scheme nonetheless did not devise a culturally appropriate method of treating the problem before implementation, resulting in the proposed treatment method being rejected (Tindall 2001). This shows that community education programs require similar issues to be tackled in terms of cross-cultural communication and compliance, as occurs within the individual education setting. Despite the best of intentions, the neglect of these issues, and ignorance of advances in Indigenous education theory have contributed to decades of Indigenous health programs not achieving the success anticipated (Golds et al., 1997).In contrast, the HDHC program avoids assimilatory educative process by involving the community throughout the process and balancing local and external views in terms of topics, learning process, and underlying values and world views.

Background Information and Literature Review

General Background on Indigenous People, Dogs and Health in Australia

Dogs have been an integral part of Australian Indigenous communities for thousands of years, and continue to play important roles in Indigenous cultures (Harris 2000). Before colonisation many Australian Indigenous peoples lived with dingoes (*Canis familiaris dingo*). Congruent with their seasonally mobile lifestyles, the people's relationship to the land was complex and integral to their society, economy, and spirituality. The compartmentalisation of life was a Western concept. Instead, life was governed by the kinship system into which people, plants, animals, land and sky were interrelated. Knowledge was passed on through oral and painted illustration of Dreaming stories in ceremonies and in day to day discussions and hands-on learning. Dreaming stories carry the code of the Law illustrated by narratives concerning the past and ongoing interactions of Creation Spirits and other beings with the Land.

After colonisation, the dingo hybridised with the domestic dog (*Canis familiaris*) brought in by Europeans. The breeding behaviour, living patterns and diseases of the domestic dog and its hybrid with the dingo differed markedly and yet knowledge of these changes were not paralleled by a sharing of Western dog caring knowledge and services. This mismatch has led to poor dog health in many communities, especially in terms of parasite burden, nutrition, and traumatic injury (Shields 1992; Wilkes, Williamson and Robertson 1993, Brown 2006) Dog health is an important factor in Indigenous health in the holistic sense, impacting both in terms of zoonotic pathogens and community self image and mental health.

Modern Indigenous Education Theory

Contemporary techniques in Indigenous education acknowledge advances in Western learning research and thinking, as well as the importance of the local learning environment and Indigenous culture. This is in order to produce optimum outcomes for Indigenous contexts. External and local educative processes must be balanced to avoid assimilatory education. This must be examined at the level of content, learning processes and worldview.

a) Content - Motivation for Learning

Western education research tells us that there are pre-requisites for learning in any culture, including Indigenous cultures (Gray 1990). These include that the topic the learning addresses is of relevance and interest to the learner, as Abrami and Chambers (1996) point out: "*learning is unlikely to occur if students lack interest or a reason for learning*" (Abrami and Chambers 1996:71). Moreover, Knapp (1981) states that if Aboriginal students are to achieve "*we need to recognise that [other adjustments] will have little purpose if the meaning context of the material to be learned has not been adequately developed*" (Gray 1990). If the topic is relevant to the needs of the learner, they are much more likely to be interested and receptive to the learning situation. To ascertain the topics of relevance in any given community, it is thus important to conduct a needs analysis in that community, so that the researchers will be able to tailor each program to the identified concerns.

b) Learning Processes

Learning processes govern how students learn. Education is more successful when students' needs in terms of learning processes are matched by the program's design. Learning processes can involve differences in learning styles, language, and program format.

i) Learning Styles

Current pedagogical thought proposes that there is a spectrum of different styles amongst students (Richards and Rogers 2003). These include global/analytic, verbal/visual, abstract/concrete, reflective/trial and error, and others. These learning styles are often learnt from surrounding peers at an early age, but are not static; rather, they are present as strengths and weaknesses that can be built on or influenced by later experiences. However, in teaching new material, it is important to "play to strength": to structure the learning material around a student's strengths in order to successfully involve and influence them (Richards and Rodgers 2003).

The work of Harris (1984), Gray (1990), and Christie (1992, 1998) have highlighted cultural differences in the way Indigenous and Euro-Australian people learn best. Hughes, More and Williams (2004) investigated Aboriginal ways of learning (AbWol), and concluded that while there was no one single Indigenous way of learning, that certain learning styles were more likely to be a learning strength. These included:

> global (wholistic) learning
> group (non-competitive) learning
> imaginal (visual) learning
> concrete learning
> a complex combination of trial and feedback
> and reflective learning
> contextualised learning
> (Hughes, More and Williams 2004:35)

They derived the following principles for using recurrent Aboriginal learning strengths:

1. The learning strengths of the individual learner are paramount. Profiles of recurrent learning strengths (for *any* cultural group) can be very helpful in developing strategies for groups, but the needs of the individual must always be kept in the forefront.
2. Learning strengths are not discrete, separate or opposites. They exist on a continuum representing different combinations of the processes, which appear at the two ends of the continua.
3. Cultures (including Aboriginal cultures) are dynamic, always developing. Thus the profiles of learning strengths will also be dynamic.

Thus, when teaching Indigenous students, it is useful to investigate the class's actual learning strengths and preferred ways of learning and target these.

ii) Language

Choice of appropriate teaching methods must also consider the language through which the program will occur. In most Indigenous communities, the mother tongue is not Standard Australian English. Either Aboriginal English, a creole, or an Indigenous language are more common as a first language (Eades 1991, Harkin1994). This can differ between different age groupings within the same community. As Gray (1990) notes that "*Aboriginal languages are organised to record Aboriginal knowledge and thought (...) people must understand Aboriginal language to truly understand the knowledge of Aboriginal people*" (1990:106), it is important to ascertain in which language people are most comfortable communicating. As non-Indigenous participants will likely not have sufficient grasp of Aboriginal languages to fully communicate, a translational model is essential. In this model, concepts and resources are translated and backtranslated to ensure meaning is communicated and understood.

iii) Program Format

The format of the learning experience also needs to be locally and culturally appropriate, in terms of the both the setting, such as the location and timing of the program (Austin-Broos 2006), and the social environment, in particular the relationships between learners and teachers.

iv) Setting

Location and timing must allow the education to be accessible to participants. For example, male participants may be reluctant to participate in learning conducted in women's space, such as at a women's centre, and vice versa. It should be flexible as cultural obligations such as "sorry business" (mourning) take preference over other demands on time (Austin-Broos 2006).

v) Social Environment

Education should be conducted in a way that facilitates knowledge acceptance and spread in a community: "the most fundamental requirements for effectiveness are that the messages' content and context be designed to flow through an individual's social network" (Farquhar *et al.,* 1991). In many Australian Indigenous societies, the social group has a greater importance than in Western cultures. For example, the Indigenous concept of "shame" can be loosely translated as anything that singles an individual out from a group. These values reflect on the recurring Indigenous learning strength of group or non-competitive learning. Gray (1990) finds that in Indigenous contexts "learning is socially constructed", rather than given or created by individuals. Similarly, Marika-Mununggiritj (1990) stresses that teachers and learners must negotiate meanings together

(1990:49). Of group learning styles, Richards and Rodgers (2003) explain that:

> Learners become members of a community - their fellow learners and the teacher - and learn through interacting with the community. Learning is not viewed as an individual accomplishment but as something that is achieved collaboratively.

It includes learners creating the discussion and evaluating the lesson. The discussion may then be summarised by the teacher and interesting teaching points noted for deeper consideration and recollection (Richards and Rodgers 2003). In this way, learnt knowledge is constructed by the group and relies on social consensus.

Furthermore, in some Indigenous communities, social consensus cannot be imposed, forced, or even seen to be instigated by individuals, as morally binding social consensus is not seen to be generated by human decision-making, but must clearly follow from the Law, or Dreaming (Myers 1986).

As the learning community is a construction, relationships and rapport need to be developed to achieve social consensus. Christie (1998) states that "*Group approaches work, but are subject to the ongoing vicissitudes of community politics (as they must be), so academic success proceeds hand in hand with community development.*" In this case, it is the learning community, rather than the surrounding society, that needs to be developed in order for optimal learning conditions to be in place. As such, successful learning relies on relationship building and social cohesion.

Different programs have grouped learners in different ways. Franks (1989) focused on family groups, whereas the Warlpiri Triangle Teacher's workshops (1998, 1999, 2001) clustered groups of qualified or interested individuals. Traditionally, learners were grouped according to sex and kinship relationship, and not usually stratified by age. As it is likely to be highly locally specific, this should be explored in each community.

vi) Teacher-Learner Relationship

Godfrey *et al.* (2004) found the teacher-student relationship of crucial importance to Aboriginal students. Because traditionally who taught whom was directed by the kinship system, each teacher would be someone that the student already had a close relationship with. For example, in Walpiri culture, the relationship which involves teaching roles is that of aunt-niece:

> The significance of niece/aunt relationships cannot be emphasised enough; it encompasses every aspect of living. There is utmost respect between these two people. It is personally special, as an aunt provides a unique friendship combined with teaching, formality, humour and support (CIDER 1996:39).

This emphasises that teachers are friends and supporters, not arbitrary strangers appointed to the position because of their knowledge. Non-community members involved in teaching can thus encounter difficulties if they do not work on the relationship between themselves and their students. In schools, despite being strangers to the students at first, Gutman (1992) found that the teachers that were appreciated by Indigenous students had characteristics of fairness and compassion, and challenged their students intellectually.

That the students felt the teachers had a modicum of understanding of their needs emphasises the importance of rapport in the student-teacher relationship. Richards and Rodgers (2003) define rapport as:

> Meeting others in their world, trying to understand their needs, their values and their culture and communicating in ways that are congruent with these values. You don't necessarily have to agree with their values, simply recognise that they have a right to them and work within their framework, not against it.

Further to this, in an Indigenous context, the teacher-student relationship is not only a relationship between individuals, but also includes associations with the rest of the community through the kinship web.

Marika-Mununggiritj (1990) finds that workshops are an appropriate learning format in an Indigenous context as they provide the opportunity of establishing new understandings on the basis of old understandings and keeping an appropriate teacher/learner balance.

c) World View

Adapting the teaching method to suit local requirements facilitates learning, but if educative adaption stops there, the education program may be seen as "*merely part of the packaging that presents assimilation in such a way that Aboriginal people will choose it for themselves*" (Folds 1993). In order to avoid assimilatory education, one world view must not be imposed at the expense of the other.

In order to achieve this, it is necessary to be constantly examining the program at all levels, in partnership with the community, to ensure it is not assimilatory but provides real choice for future development. This is realised through respectful involvement of community from the beginning stages of the program, having Indigenous education academics com-

ment on the program as it is developed, and leaving the program to be entirely flexible to the requirements of the community rather than imposing structure or concepts from outside. If done properly, the visitors learn as much as community members: learning is balanced. If this ratio is unbalanced, it is necessary to analyse whether one world view is being imposed at the expense of another.

The theories used in the development of this approach to balancing cultures draws on the ideas such as Wunungmurra (1988) and Yunupingu (1993) about the positive effects of mixing Western and Indigenous knowledges in education. Wunungmurra explains that:

> In an exchange of knowledge both sides learn from each other instead of the knowledge only coming from the Balanda [non-Indigenous] side.(1988:157)

In practice, this has resulted in methods such as Both Ways Learning and Generative Curriculum.

The Generative Curriculum model has been successful in tertiary education programs for Indigenous students in Canada (Ball 2004) and adult Indigenous language workshops in Australia (Calgaret, Whitehurst, and Wooltorton 1988). In this model the curriculum is generated by the needs and interests of the participants as the program progresses. This is in line with Gray's (1990) recommendation that in an Australian Indigenous context "*the negotiation of learning should be supported and structured in such a way that allows meaning to be jointly created*". The Generative Curriculum model works on the basis that participants, be they elders, veterinarians, dog owners or educators, are of equal status and everyone's knowledge is valued. Together participants build up a body of knowledge relevant to the needs of that time and that place.

d) Sustainability

The resulting knowledge created by education workshops should be available for nonparticipants, and for future generations. In other Indigenous communities, this has taken the form of:

- written material, e.g. the Dog Book *Qimminuulignajut Ilumiutartangit* (Stairs 1998), and the Yirrkala books;
- artistic representations, such as the Kintore education painting (Keeffe 1992);
- oral ceremonies, such as the Maningrida sniffing ceremony (Trudgen 2003).

The way in which this knowledge is kept in a community, and how and by whom it is accessed is a matter for each community to determine. In order to be of use and of interest to the communities involved, each community should decide which format their results will take.

Study Aim

The aim of this pilot study was to trial modern theories of Indigenous education, such as a generative curriculum, in a veterinary health based learning environment to assess if this approach would change knowledge, effect behavioural change and improve the sustainability of regular veterinary treatments. The study was conducted in a remote Indigenous community of approximately 900 people in central Australia which spoke Warlpiri and had a common culture.

Methods

The program concentrated on adult women, as decisions regarding dog care and day to day husbandry is women's business in this community. The program was conducted in the front yard of the women's centre as this was where the women felt most comfortable, and only female researchers were included.

The first researcher is a veterinarian with a Masters degree in Indigenous Education. She has been conducting education programs and research in Indigenous communities for three years. The second researcher is an educationalist with over 25 years experience in designing programs and curricula for schools, community groups and adult learners. Both researchers were conducting the research with the purpose of improving dog health in a culturally supportive manner. The researchers spent time in the community prior to the commencement of the education program. Focus groups were formed prior to the implementation of the program. The program was conducted over three days. At the conclusion of each day, both researchers wrote memos of what had occurred in that day. At the end of the three days, the researchers conducted short interviews with two bi-lingual participants who had attended all aspects of the program.

Education Program

An education program on mites and population control was conducted over three days and delivered based on the principles of locally relevant content, appropriate educative processes, and balanced world views.

a) Locally Relevant Content

This aspect was explored and developed in two ways. Prior to the commencement of the program a needs analysis was conducted by using focus groups

methods to discuss what members of the local women's centre and other Yapa (local Indigenous people) felt were the important issues to discuss. This process acknowledged the long history of dog-caring in the area and emphasised that the researchers thought local knowledge was very important and wished to mix local and external knowledges to address dog health. The results of 10 years of veterinary research by Dr. G Brown were used to determine what pathogens and disorders were extant in the community.

b) Appropriate Educative Processes

The literature review was used to develop education resources in view of the likely recurrent learning strengths associated with Aboriginal people. The focus group was also asked about preferred location and format, and confirmed preference of the workshop format and womens' centre location. At the beginning of the workshop, a preferred learning methods activity was completed with the participants and the results discussed to explore locally preferred learning styles. Translation and back translation services were provided by proficient local bilinguals at all sessions. Program flexibility was maintained by being aware of, addressing and adapting to the changing needs of participants, such as some participants had to withdraw briefly from the program to attend a mourning ceremony.

Examples of Learning Experiences

An example of the teaching resources that were developed is the Miniji story (see appendix 1). The Miniji story is based on a local Dreaming story, and incorporates local language and narrative technique. This narrative is a useful learning experience because it is:

- Oral, therefore does not rely on texts or literacy; is accompanied by concurrent illustration of concepts using local symbols;
- It includes local language as learning bridges (mirrijin for medicine, minji for mange, jujuju for puppy, warriya for juvenile dog, lutu for tick, and so forth) and is also interpreted into Warlpiri to cement understanding
- It uses aspects of local narratives such as dreaming stories. For example, a local dreaming story tells of the honey ants burrowing through the ground, then dying when they got wet.
- It uses points of local relevance such as the person who was the source of dog medicine (Gloria), the local fauna (goannas and geckoes), and the yellow dots that the veterinarian puts on dogs when they have been treated for mites.

Another teaching resource was developed which offered alternative treatments in visual form. It included a decision making process which facilitated the individuals making informed decisions based on local conditions, economics and implications of various treatment options for their dogs. This teaching resource is mainly visual, in keeping with preferred Indigenous learning strengths, and allows visual comparison of concepts. It was assessed as being empowering by the participants.

Relationship Building

The program set aside time to develop relationships with local people within the community, concurrently with deepening the researchers understanding of culture and the local situation. These go hand in hand in Warlpiri culture, as relationships are guided by the kinship system.

For example, a "bush tucker" trip was undertaken prior to the program with two program participants and two researchers. This is both a process to improve relationships further, and a result of previous good relationship building. It also gave participants a chance to display their superior knowledge of the local environment, in order to help achieve balance in world views and was a learning experience where all participants learnt from one another.

c) World Views

Literature was reviewed for information on values and world views of Warlpiri people (eg Meggitt, 1974). An important Walpiri value is that of social cohesion, for example not presenting a forceful opinion, being quiet, listening and learning. This includes showing respect for other people's opinions and thinking space. Also valued is the importance of individual autonomy at the same time as the importance of the group. For example, people prefer to learn in a group setting but each individual participant decides on dog population control treatment as individuals. This is in line with cultural beliefs that dogs are individual property and belong to specific people.

Program information was presented so as not to conflict with this, and to allow room for other world views through reflection and discussion. Furthermore, activities such as the bush tucker trip as discussed earlier, were conducted to support and ensure a balance of world views.

Evaluation

The success of the education program was evaluated in three areas: engagement in the program, evidence of acceptance of workshop knowledge and behaviour

change, evidence of relationship building and social acceptance in the community. The data gathering tools (apart from the focus groups already mentioned) were observations, memo writing by two female researchers and short interviews with two bi-lingual participants at the conclusion of the education program. These qualitative research methods were suitable for this pilot program.

Results and Discussion

Success of the educational process was evaluated in three areas: engagement in the program, evidence of acceptance workshop knowledge and behaviour change, evidence of relationship building. As this was a pilot program that involved a small number of participants, care should be taken in generalisation of the findings.

Engagement in the Program

Eight women participated in the program. The program occurred over 3 days and the women attended each day. The participant focus was women as dog care is women's business in the community.

By conducting learning experiences at the women's centre, men were effectively excluded which enabled group cohesion and ease of communication.

The participants listened attentively and answered questions. The pace of the program was quite slow but this allowed time for the bi-lingual participants to translate for the others. The importance of translators to ease communication by allowing people to discuss in their preferred language was confirmed.

The participants obviously preferred a discussion format to question and answer. They expressed a definite preference for visual learning materials rather than just didactic learning styles. They responded well to the use of colour to help with a decision making process.

At the end of the program the participants provided feedback that:

- the information discussed was useful, and that it should be passed on to men and children.
- the delivery could be improved, e.g. by using more pictures,
- it was best to talk to groups of about 3 at a time.

The researchers felt that the offering of suggestions for improvement was an important finding in itself. The participants obviously felt comfortable enough to tell the researchers this in spite of the social sensitivity of disagreement in this community. They also, shared some Yapa (Indigenous) knowledge with the researchers when they told them that dogs have their own dreaming too. This is generally not shared with outsiders.

Most participants stayed until the conclusion of the workshop (some individuals leaving and joining too), despite a death in the community during the second day of the workshop. Deaths in the community and the accompanying mourning ceremonies (sorry business) are immensely important in Warlpiri culture and thus the conscious and discussed decision to continue participating in the program is indicative of the esteem with which the participants held the program.

This is also indicative that participants were free to pick and choose which parts of the education session most met their needs and priorities, without feeling that they would be disadvantaged by not conforming to the program outline. This was indicative that one world view was not imposed at the expense of the other.

Evidence of Acceptance Workshop Knowledge and Behaviour Change

At the conclusion of the education program, which included a decision-making process of the treatment alternatives that were available, veterinary treatment of dogs was offered to the community. The uptake of Western mite and population control treatment was universal in participant group and their households. The neighbours and relatives of these women exhibited the next best uptake of treatment. There was less use by people not involved in the workshop, or not related to/living near those involved in the workshop. Some people who had experienced the treatment before from previous visiting veterinarians were accepting of the same treatment.

It appears two main factors in acceptance of treatment and knowledge were experience with the treatment in the past, and participation in the education workshops. The influence of the workshops extended beyond the actual attendance as recommendations from those who did, which proceeded along kinship lines. There were some individual households who refused treatment as a recommendation is not an order in this community, and individual dog owners still had to make the final decision over whether or not their dogs received treatment. However, most accepted the treatment, after a relative had recommended the procedure.

Evidence of Relationship Building and Social Acceptance

There were several instances where the two researchers felt that they had managed to build relationships with the participants. At the conclusion of the three day education program, the participants spontaneously offered the two researchers skin names. They were also given dancing boards, and taken on a bush tucker gathering trip. The researchers were told of

the existence of dog dreaming Yapa knowledge which is not generally shared with Western people. Dussart (2005:97) notes the significance of the dancing board in her words "*the dancing board, more than any other item, identifies entry into their community*". All of these are evidence of beginnings of acceptance into their social network. This is important as it improves Indigenous people's willingness to listen to you, trust what you are saying, and be able to learn and teach together. Further to this, now that researchers are known and have skin names, they have specific people from whom they can culturally-acceptably ask information, and give information to.

Future Directions

On the next visit the mite/population workshop should be summarised (repetition solidifies learning) and our interpretation of the success of the workshop should be communicated to the focus group for discussion for the purpose of triangulation. If all participants still agree with the results of the previous workshop, these results should be used to develop the men's and children's programs, for example, changing from group sessions at the women's centre to visiting people house by house (useful because their own dogs will be present and on their own territory), or in smaller groups at a place of their choice.

The concept of treating all dogs concurrently to greatly reduce mite problems should again be raised. Even though there has not been enough dispersal of information in the community for this option to be acted upon yet, it is still an important concept. Further concerns raised by the focus group, such as dog behaviour, will be addressed as the education program continues.

The program should continue to confirm that listening to local Indigenous people's point of view is important. The program could also leave more time for the learning experiences to fit around other community events such as deaths and related business. The researchers feel that it is important to continue to listen and learn about local people and culture in order to further strengthen social bonds and trust. This will also strengthen the researchers

acceptance into the local social network, as well as improve their understanding of the issues surrounded local dog health and welfare.

Conclusion

The HDHC program in Yuendumu confirms the importance of including local cultural processes into education both to avoid assimilatory tendencies and support diversity at the levels of content, learning processes and world view. The needs analysis successfully brought out the concerns of the women. This addressed the requirement for locally appropriate content.

The appropriateness of the learning process itself, initially developed under the principles of modern Indigenous education theory, was confirmed by community discussions and practice. This was evidenced both in acceptance of the education program through attendance and engagement, and in uptake of veterinary services afterwards. Additionally, the participants' recommendation to share the program with other community members (namely men and children), and their willingness to continue the program at future sessions, were also indicative of the success of the program. The balanced nature of the program was also seen in the absence of any shame at any stage of the program.

This pilot program indicated that improvements could be made, such as better visual material, including further use of local people as educators, to improve the sustainability of the program.

It can be only through the sharing of Indigenous and Western knowledge that an equal partnership can be established. It is through this partnership that the improvement of dog health can occur in remote Australian Indigenous communities.

Acknowledgements

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Appendix 1

Minji Story

When dogs get itchy and their hair falls out they have minji. Minji is caused by little animals called mites that burrow in the skin like honey ants burrow in the ground. This makes the skin itchy. They are like lutu but very small; like how there are big goannas and small geckoes. They fall into mattresses and blankets and stay if its dark and cool.

There are two different kinds of minji caused by two different kinds of mites.

One kind, Scabies, is easy to kill with mirrijin. Mirrijin wets the skin and kills the mites. Gloria's mirrijin every 3 months keeps it under control.

The other kind, demodex, is very very hard to kill. The deomdex mites are very strong. The mirrijin might kill some mites, but not all mites, so the skin gets a little better, but not all better. The mites lay eggs which the mirrijin does not get to. Even if a very strong mirrijin is used to kill all the adult mites, the eggs will keep hatching baby mites for many weeks afterwards. To best way to treat demodex mites is if the dog is strong, fat, and healthy.

Some dogs only have demodex minji when they are jujuju or warriya, then the dog gets bigger and stronger and can fight off the minji. Some dogs never fight off the minji. They don't get better and have it all their lives, getting sicker and sicker. Even if you give mirrijin these dogs will always be sick because the demodex minji is too strong.

If a young dog, a jujuju or warriya, has minji, first get some mirrijin from Gloria. Also, help maliki fight the minji by giving him more good food so he is strong. This is the best way we know of treating minji.

About the Authors

Dr. Roselyn May Dixon
Dr. Rose Dixon is a special education lecturer at the University of Wollongong, Australia. She has published in the areas of social competence and people with disabilities. She is also involved with Early childhood intervention for children with special needs. She is part of a large research team that is examining culturally relevant education programs in rural and remote Indigenous communities. Another research interest is the application of Social Comparison Theory and Social Cultural Theeory to children with special needs. Dr. Dixon is the Undergraduate Supervisor of Special Education and the Deputy Director of the Early Childhood program.

Dr. Robert John Dixon
Robert Dixon is the Subdean for Animal Welfare, the Faculty of Veterinary Science, University of Sydney, Camden, NSW 2570 Australia. He has undertaken research in such diverse areas as virology, molecular virology, immunology toxicology and tertiary education. His current research focusses on the human:animal domain especially with through his development of the Healthy Dogs, Healthy Communities research project which is a multidisciplinary program examining a number of facets including education, welfare and human health. He is also undertaking studies into the attitudes of different cultural cohorts to animals including Australians, Aboriginal Australians and Chinese University students in China. Future plans include exploring the link between animal cruelty and human violence.

Sophie Constable
Sophie Constable is undertaking the field studies in the development of a culturally relevant, generative curriculum to improve the health and welfare of dogs in remote Aboriginal communities in Australia. The "Healthy Dogs Healthy Communities" program aims through the sharing both Indigenous and Western knowledges of dogs that not only will the health of dogs improve but also the overall community health will improve through the reduction of diseases of dogs that can be spread to humans. She is a qualified veterinarian with a Masters degree in Indigenous Education and is based in the Faculty of Veterinary Science, University of Sydney, Camden, NSW Australia