

## Chapter 6

### ***Humanization in Decolonizing Educational Research: A Tree of Life Metaphor***

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The Tree of Life is an ancient motif that appears in many cultures and religions. The Tree is symbolic of the interconnected nature of our world(s) and is often used as a reminder of the sacredness of life and its connection to the Earth. This chapter uses the metaphor of the Tree of Life to explore the methodology of Participatory Action Research in a decolonizing educational project. A group of science teachers explored the possibilities of the mandated inclusion of Aboriginal and Torres Strait Islander Histories and Cultures in the new national Australian Curriculum. The chapter connects Freirean ideas of *conscientização* and humanization through the processes explored by the teachers and the educational outcomes sought. The importance of nourishment, protection and interconnectedness related to the Tree of Life is explored in this context.

#### **Introduction**

Through the process of my doctoral work I spent much time musing on the methodology of Participatory Action Research (PAR) and searching for a way of representing my work that could relate to both critical and indigenous<sup>1</sup> understandings. From the perspectives of both the critical tradition and indigenous methodologies, the theme of interconnectedness was one that recurred throughout my reading of theoretical underpinnings. More than this, interconnectedness was a theme through the work itself, manifesting in unexpected and serendipitous ways. In Australian Aboriginal understandings, it was explained to me by a Kamilaroi woman that serendipity and intuition are intertwined (D. Moodie, personal communication, September 1, 2011). If a person is ‘on the right track’, connected to country and listening to her or his intuition, serendipitous things would happen. This conversation led me to think of the fortunate and unexpected events that happened in the PAR journey as more than just mere coincidence. Trying to represent my newfound understanding of the methodology in a scholarly way became difficult. I was searching for a way of representing ideas quite separate from white Western epistemology. As a white researcher, this was a particular challenge.

It was at this juncture (serendipitously perhaps) that I picked up my volume of *Native Science* (Cajete, 2000) and re-read some chapters. In this book, I found a Native American description of the Tree of Life. In the cyclical development of the teachings of the Tree I found a parallel to the personal and professional development of myself as a researcher/participant and the teacher participants of my PAR project. The cycles within cycles, interconnectedness and growth of the Tree of Life drew together the purpose and critical intent of the project. In this chapter I develop the Tree of Life metaphor for PAR and link the critical intent to a decolonizing educational research from a Freirean perspective.

#### **The Tree of Life**

The motif of the Tree of Life appears prominently in cultures around the world. The symbol is usually understood as a representation of the interconnectedness of life and the spiritual and physical worlds (Meadows, 2009). The Tree is a metaphor for the cycles of renewal and dynamic creativity that has acquired a permanent significance and adaptability in changing worldviews, theological systems and ideologies (Proudfoot & Habibis, 2013). Tree

metaphors are often also used in Western traditions of knowledge and truth. The Tree of Life metaphor seems to be in contrast to rationalist scientific thought. The eighteenth century saw Enlightenment thinking give credence to only two realms of experience, reason and sensory perception, giving no room for the recognition of imagination and non-physical realms (Meadows, 2009). The scientific primacy placed on empirical, measurable cause and effect data marginalizes the idea of situated, interpretive, multiple realities as ‘soft’ research (at best) (Semali & Kincheloe, 1999). Rather than a structural approach to a tree metaphor as might be found in the scientific tradition, the Tree of Life recognizes more than physical, measurable sensations as sources of information, also acknowledging intuition and inspiration.

Cajete (2000) describes the teachings of the Tree of Life as a “metaphor for life, healing, vision and transformation” (p. 285). Central to the teachings of the Tree are four great human development stages, which bring forth the key meanings and teachings of the Tree:

Through an understanding of “protection” (the shade of the Tree), we come to see how the Earth provides for human life and well-being. In understanding the nature of “nourishment” (the fruit of the Tree), we come to see what we need to grow, to live a good life. We come to understand how we are nourished through the relationships we have at all levels of our nature and from all other sources that share life with us. We also come to know that as we are nourished, so must we nourish others in return. As a tree grows through different stages—from seed to sapling, to mature tree, and to old tree—we see that growth and change are the key dynamics to life. We also learn that growth and change reflect self-determination, movement toward our true potential through the trials and tribulations, the “weather of our lives”. “Wholeness” is the finding and reflection of the face, heart, and foundation through which our lives become a conscious part of a greater whole, of part of a life process rooted to a larger past, present and future ecology of the mind and spirit. (p. 286)

In linking the description by Cajete to my work with Aboriginal and Torres Strait Islander knowledges, I spoke with one of my cultural consultants about Aboriginal understandings of the Tree of Life. As a Ngarrindjeri man, he told me a story he’d recently adapted for a primary school student play:

There was once an old Goanna Lady who was a healer. She moved from tribe to tribe using her medicine to help people. By making her way between nations she brought the people together and gave them a common connection. When she died a medicine tree grew in the place where she was buried. The Goanna lady’s tree continued to bring together the nations and provided a place of healing. (D. Nikkelson, personal communication, March 30, 2011)

Again, the theme of interconnectedness comes to the fore. There are several parallels in this Indigenous Australian understanding to the Native American representation of the Tree above. Through her healing knowledge and status as a healer the Goanna Lady connected to country and to people in a way that promoted peace. The Goanna Lady’s tree provided a place of nourishment and protection for future generations. Growth and stages of life are present through the representation of age and death. There is also renewal through the continuation of the Goanna Lady’s healing provided by the tree that grew where she was buried. Interconnectedness is present through all of these metaphors in terms of healing, country and people.

In recognizing the similarities between the narratives of the Tree, while acknowledging the differences and not essentializing indigenous knowledge, the adoption of a metaphor of life,

healing, vision and transformation fitted with my own understandings of my PAR methodology, the personal and professional growth of myself and the other project participants, as well as our critical intent in working within the study.

### **The Research Study**

The research project described in this chapter aimed to illuminate the intellectual, epistemological and pragmatic processes that teachers undertake when engaging with indigenous knowledges in science classrooms. The focus of the research was engagement of epistemologies and content outside of Western modern science traditions and the sense teachers made of these alternate ways of knowing in the context of science education. The methodology aimed to highlight the relationship between this (re)conceptualization of science education and teacher praxis. The implementation of the new Australian Curriculum provided an impetus for the inclusion of different cultural understandings (and specifically Indigenous Australian understandings), of science (Australian Curriculum Assessment and Reporting Authority, 2011).

I was the researcher/participant, and six mostly secondary school-based science teachers were part of the research group. All participants except one identified as white Australians, and that participant identified as a Murri person (Queensland Indigenous person). Although the research project began with six participants, owing to external factors such as teacher transfer and additional workloads gained during the project, not all participants were contributing by the project's conclusion. For the purposes of this chapter, data have been taken only from those who participated in the entire project.

In total four PAR cycles were completed. In the first cycle the group members considered what they wanted to achieve through the project and set some goals to work toward. The second cycle saw consideration of where the group saw indigenous knowledges fitting within the curriculum and discipline areas of science that they needed to teach. The third cycle saw the remaining participants implementing their teaching plans in the classroom, while the fourth cycle considered ways of moving forward with their pedagogical praxis. Data were collected in the form of recordings and resulting transcripts from group meetings and individual discussions with the participants, documentary evidence of lessons/units planned and classroom observation of teaching. This chapter draws on a small subset of the larger data pool of the research project, focusing on group meetings and individual discussions.

The choice of a PAR methodology allowed the teachers involved in the project to connect theory and practice to collectively (re)create knowledge (Kemmis, 1981; Kemmis & McTaggart, 2005; McIntyre, 2008). The cyclical process of PAR is one of continual reflection and action involving collaboration between participants in the research (Griffiths, 2009). The choice of PAR as a method and the strategies for data collection and analysis were reflective of a critical research perspective. The methodology showed a concern for locating the project within the social and political landscape, seeking emancipatory outcomes and reflected a concern with praxis. The underlying tenets of PAR as applied in the project can be described as a collective commitment to investigate an issue; a desire to engage in individual and collective action leading to a useful solution that benefits the people involved; and the building of alliances between the researcher and the participants in the planning, implementation and dissemination of the research process (McIntyre, 2008). As knowledge is collectively generated, it was hoped that the practices that emerged from the PAR process would be aligned with teachers' pedagogies and promote a lasting opportunity for changes in practice.

The theoretical frameworks often identified as underpinning PAR were congruent with the critical concerns of the project. Critical theory has contributed to PAR through the examination of social, political and economic structures that influence the social participation of individuals and their practice (Kemmis, 2008; McIntyre, 2008). The idea of

*conscientização* (Freire, 1989), developing a critical consciousness, is inherent in the reflexive and social nature of the PAR process. Freire recognized the role of praxis as action in and reflection on the world in order to change it (Freire, 2009). The critical self-inquiry and reflection processes of PAR and the importance of these for effecting social change has been recognized by practitioners of PAR as drawing on Freire's work (Fals Borda & Rahman, 1991; Herr & Anderson, 2005; McIntyre, 2008).

### **PAR and indigenous methodologies**

Because the research project was working with both Indigenous and non-Indigenous people and engaging with indigenous ways of knowing and being, I selected a method that could be deployed recognizing the cultural sensitivities inherent in the topic. I was conscious of the power differentials between indigenous knowledges and Western scientific knowledges as well as the potential for me as a white researcher to be seen as appropriating indigenous ways of knowing. As Semali and Kincheloe (1999) warn, it is important that Western people do not speak and act for indigenous people and that indigenous people form allies outside their local communities.

This project was formed with a focus on relationships and collaborative thought, action and generation of knowledge. As Brydon-Miller, Kral, Maguire, Noffke, and Sabhlok (2013) highlight,

PAR is in keeping with Indigenous cosmologies where relationships are at the center, a form of research that is "evaluated by participant-driven criteria" (Denzin and Lincoln, 2008, p. 11). It is a decolonizing of methods of academia, a political stance in the redistribution of power with a focus on sharing and mutual respect. (p. 395)

Indigenous methodologies can be described as research by and for Indigenous people. Writing from a Maori standpoint, Smith (2012) emphasizes the importance of building trust in relationships within indigenous methodologies. Important questions around the researcher's intent are highlighted: *Who owns the research? Who will benefit? and How will the results be disseminated?* Smith sees these questions as part of larger judgments that indigenous communities make surrounding the researcher, in which questions such as *Does he/she have a good heart? What baggage do they carry? and Can they actually do anything?* (p. 10) are equally important. As the researcher in this project, I was always conscious of these types of questions as critiques of my methodology from an indigenous standpoint.

There is an intersection between most critically based PAR projects and indigenous methodologies in that both seek to critique the notion of the unproblematic creation of scientific knowledge. The frameworks employed by PAR can complement indigenous methodologies through challenging the positivist scientific positions of objectivism and neutrality (Shiva, 1997). In the case of this project, indigenous methodological stances informed the PAR process, in particular through my critical theory/pedagogy lens and engagement with the importance of reciprocity in relationships.

Freirean ideas have been used in indigenous methodologies as well as with PAR. Freire's theory of conscientization (Freire, 2009), "his belief in critical reflection as essential for individual and social change, and his commitment to the democratic dialectical unification of theory and practice have contributed significantly to the field of participatory action research" (McIntyre, 2008, p. 3). Similarly, Freire's development of counter-hegemonic approaches to knowledge construction within oppressed communities has informed many of the strategies practitioners use in PAR projects (McIntyre, 2008). Conscientization is also part of some indigenous methodologies; for example, Smith (2011)(NOT AT REFS) draws on Freire's thoughts around 'naming the world' and the power that this gives to hegemonic groups in knowledge claims to suggest the Indigenous project of *Naming* to (re)name the landscape with indigenous names. Here the possibilities of synergies

between indigenous methodologies and PAR emerge: both are aiming for a critical consciousness in analyzing the legitimacy and power of knowledge.

### **A Tree of Life Metaphor for This Project**

#### **Protection—The shade of the Tree**

Freire described the banking model of education as the act of a teacher making deposits of information which the students receive passively; he articulated this as an exercise of domination, indoctrinating the oppressed into the world of oppression (Freire, 2009). In the project described here, the teachers attempted to free themselves of the indoctrinating ways of schooling, while still acting within the prescribed system, to provide a liberating experience for their classes and themselves as educators. In providing a pedagogical space for well-being and growth, they were acting in the shade of the Tree, recognizing the need for human life and well-being.

Through expressions of alienation and domination, dehumanization takes place (Freire, 1970). In working to reduce the alienation of the Other, as indigenous cultures in the colonized world are still seen, the work was very much a humanizing and decolonial project. The process of working toward a pedagogy that was humanizing and liberating had the effect of promoting conscientization in the teachers themselves. In actively opposing oppression in their own praxis, the teachers advanced in terms of human becoming as they more clearly began to see the oppressive ways of the curriculum and their peers around them and actively engaged in promoting change. As Freire observed, “Liberation can not exist within men’s consciousness, isolated from the world; it exists in the praxis of men” (Freire, 1970, p. 3).

In challenging the status quo of marginalization of indigenous ways of knowing within the scientific frame, the teachers promoted an educative space in which indigenous knowledge was seen as synergistic with Western scientific ideas. Freire, speaking of the humanist revolutionary educator, said of the teacher that “from the outset, her efforts must coincide with those of the students to engage in critical thinking and the process of mutual humanisation” (Freire, 2009 p. 75)

One of the teacher participants in the project, Cristy, told us of her experience in approaching the resistance some students had to seeing how indigenous knowledge could be science and the impact of presenting indigenous knowledge in the science classroom.

Aboriginal and indigenous knowledges and perspectives, miss how this is science, but that was the perfect way of promoting that this is science and that we can work together, irrespective of where we come from and what we bring to the table, to pass on knowledge and critical thinking.

#### **Nourishment—the fruit of the Tree**

In understanding what is needed for growth and promotion of a ‘good life’ in terms of nourishment of the Tree, all participants, including me, thrived on the successes of the teachers in the classroom. For teacher participant Cristy, nourishment came through having one Aboriginal student actively involved in the teaching of a physics unit, incorporating didgeridoo playing and the sharing of his family’s knowledge of traditional hunting and food gathering. She noted:

That was just so, so empowering for him but also for the other students as well because they were asking him questions. It was such an interactive lesson that—and the boys all responded so positively to it—I can’t imagine why this whole concept is not a good idea.

In reflecting on Cristy's experience, another teacher participant, Alan, observed:

It could be the case that this is a lot more powerful than just making [connections]—I think the idea of recognition of value in other people's cultures is really important, recognition of Indigenous people [having] a long history in their countryside, in the land and what they have to offer is pretty big. The ability for our Indigenous students to say, well this is how this works and then use the science vocab to describe it, I think that was—I think for someone to do that, that's showing that they've thought about it.

For me as the researcher/participant in the process, one of the most nourishing moments in our group discussions came when one of the teachers articulated his thoughts on the power of indigenous knowledge in the classroom to promote *conscientização* in students:

It opens up and it makes people think, oh there's value in that and there's value in you and value in [indigenous knowledge].

Through the PAR process, teaching experiences were shared, allowing for encouragement and critical reflection to build new ways of considering praxis in terms of pedagogy and challenging the status quo. Without this nourishment from successes and from one another, the potential of the project to stall was a real danger. Initially, the project had ten teacher participants. Perhaps those who did not find the nourishment they needed in the process found it more difficult to proceed through the PAR cycles. Several participants did not proceed past the first or second cycle. The implications of challenging their own praxis and the institutional status quo may have proved too difficult for them to proceed to actual implementation in the classroom. Fears of "stepping on cultural toes" and ensuring that their other reporting and curricular commitments were met became insurmountable obstacles to classroom implementation.

### **Growth and Change**

The idea of the growth of the Tree through the cycles of life reflects well the progress of a PAR project. The cyclical nature of PAR fosters action and critical reflection at each stage of the research process. Participants are challenged to reflect on their actions to inform their future praxis. Through this constant reflection, critical consciousness grows and potential grows from the trials and tribulations of the process. At the beginning of the project, several participants had trouble envisioning how their science teaching practice could contain indigenous knowledge and epistemologically struggled with the different ways of knowing:

I think parts of the Indigenous knowledge, I don't even know if that's the umbrella term of what it is, but I think parts of it are scientific and parts of it are mythology which to me in my definition, in my head, that's not science. So like, I don't see how I'm going to be able to . . . but then I can't really just cut it, can I? Cut it in bits?

However, by the end of the second cycle, the same teacher had better reconciled Western science and indigenous knowledge and saw the potential for incorporation quite differently:

Something that's really good that's come out of, I think, what we've been doing, is that I think I've got a more positive outlook with what I can do. . . . Like at the moment I'm teaching a unit that I've never taught before, which is forces, and machines and things like that. And I'm kinda kicking myself for not having thought of taking an Indigenous perspective with one of the assignments. . . . I've been thinking about Indigenous tools, Indigenous weapons and that stuff just fits so perfectly into looking at levers, looking at incline planes, like it would be a really, really good unit.

Similarly, one of the participants who worked within the project until its completion moved from seeing indigenous knowledges being incorporated into units in specific areas such as astronomy and geology to seeing unlimited potential:

I think you could almost write a science book using activities based around indigenous experience.

### **Wholeness**

The project became an ongoing exercise in decolonization and humanization for the participants. Through the *conscientização* achieved by the teachers, their commitment to a teaching praxis that is humanizing has been stimulated and they continue to challenge institutional barriers presented to them. While the inclusion of Indigenous ways of knowing has been mandated by the new Australian Curriculum, when considering the whole of the context within their own schools, teachers have found that this may not be valued or supported. Their efforts in the project work have often been little acknowledged and in some cases dismissed. This was evident when one of the teachers had heated discussions with peers around their perceived lack of importance of the Aboriginal and Torres Strait Islander Histories and Cultures Priority in science teaching.

Resistance to the inclusion of indigenous knowledges in the science classroom was presented both actively and passively. Only two of the original group of ten teachers completed the project. The teachers' most common reason for leaving the project was time constraints owing to the job expectations placed on them. Many cited the pressures of preparing and implementing assessment and reporting structures required by the current neoliberal educational system. Teachers felt they were unable to commit the time to gaining the necessary knowledge and skills to respectfully and non-tokenistically implement their ideas in the classroom.

In some cases, resistance also came from the teachers' peers within their schools. In one instance, a unit and assessment plan written by a participant was to be implemented across a Year 8 cohort. Even though the unit had been written and resourced for all teachers to work with, one teacher refused to use it in his classes. This meant that only half the cohort experienced lessons with indigenous content.

The limitations on teachers' practice and agency within the schooling system impacted their praxis and their ability to challenge the status quo. While individual teachers promoted humanizing curriculums, the dehumanizing influences of the system were not easy to overcome. Perception of these institutional limitations and conforming pressures proved to be an important point of consciousness for the sustained motivation of participants. As Freire observed,

The educator who chooses a humanist option, that is, a liberating one, will not be capable of carrying out the obligation bound up in the theme of his option, unless he has been able through his own *praxis* accurately to perceive the dialectical relationships between consciousness and the world or between man and the world. (1970, p. 3).  
(WHOSE EMPHASIS?)

While this quite negative representation of wholeness in terms of understanding the contextual aspects of the school system was a strong theme, a positive wholeness was also inherent in the project. Linking to the idea of nourishment through the successes of the teachers, the collective knowledge generation of the PAR process provided an interconnectedness of the participants and me as a researcher/participant. Through this critical analysis of the systemic influences, historical and social forces conscientization was achieved, ensuring that there was a "reflection of the face, heart, and foundation through which our lives become a conscious part of a greater whole" (Cajete, 2000, p. 286). Participants challenged themselves to maintain their integrity of purpose in the face of the

oppositions they encountered. Through future planning of activities to carry on the work of the project, such as whole school staff professional development sessions run by the teachers themselves, participants reminded themselves “of part of a life process rooted to a larger past, present and future ecology of the mind and spirit” (Cajete, 2000, p. 286)

## Conclusion

Many critical PAR projects share a desire to be liberating and humanizing. The choice of project research area often centers on situations in which dehumanization is oppressing individuals and groups. Participants experienced liberating and humanizing research processes through considering how science teachers incorporate indigenous knowledges and ways of knowing in their teaching practice. Through recognizing the dehumanization inherent in the school system, and the potential of indigenous knowledges to humanize the learning experience for their students, they developed their own critical consciousness.

The development of the PAR process in the project could be explained through a Tree of Life metaphor. The critical consciousness developed and the motivation within the participants to effect change through their praxis reflects the idea of protection of the Tree. The cyclical nature of PAR fits well with notions of growth and change of the Tree, especially given the critical perspective used (and gained). Nourishment became particularly important to the participants in terms of celebrating the successes of the project to be able to keep moving forward. Wholeness was reflected through the recognition of the contextual and historical forces that influenced both teachers’ practice and praxis.

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#### Endnote

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<sup>i</sup> In this chapter capitalization is used to differentiate indigenous peoples and Australian Aboriginal and Torres Strait Islander peoples (Indigenous).