Literature Review

1. World View

1.1 Aboriginal Worldview

1.2 Emerging Contemporary Western Worldview

2. Empowerment and Connectedness

2.1 Understanding Power

2.1.1 Contact Zone

2.2 Empowerment in an Aboriginal Context

2.2.1 Self Esteem: Affirming and Recreating Cultural Pride

2.3 Empowerment in an Education Context

2.4 Connectedness and Contextualization

2.4.1 Bronfenbrenner

2.4.1.1 Yarning Up Trauma: Calmer Classrooms: Take 2

2.4.1.2 Mindfulness

2.5 Connectedness and Resilience

2.5.1 The Resilience Literature

2.5.1.1 Protective and Risk Factors

2.5.1.2 Resilience in Aboriginal Girls

2.6 Leadership in an Ecological Model

2.6.1 Leadership within the Learning Community

2.6.1.1 Appreciative Inquiry Model

2.6.1.2 Leadership for Learning

2.6.1.3 Authentic Leadership

2.6.1.4 Adaptive Leadership Model

2.6.1.5 Aboriginal Leadership

2.6.1.5.1 Aboriginal Principals Associations

2.7 Connectedness within a Learning Community

2.7.1 Students and Teachers as a ‘Community of Learners ’

2.7.1.1 Difficulty in Development of a Professional Learning Community

2.7.1.2 Community of Truth
2.8 Empowering Education

2.8.1 Learning in the Middle Years of Schooling

2.8.2 Empowering Pedagogy
   2.8.2.1 Pedagogical Design for Learning
      2.8.2.1.1 Participation
      2.8.2.1.2 Problem Posing/Solving/Dialogue
      2.8.2.1.3 Democratic Dialogue and Democratic Discursive Environment
      2.8.2.1.4 The Physical Environment

2.9 Wellbeing Programs

2.9.1 Restorative Justice Practice
2.9.2 Deadly Sista Girlz Program
2.9.3 Tree of life
2.9.4 Paying Attention To Self (PATS)

2.10 Definitions of Culture, Empowerment and Connectedness

3. Learning

3.1 Connectedness of Learning

3.1.1 Dualistic and Holistic Thinking in our Educative Process

3.1.2 Holistic Education
   3.1.2.1 The Four Pillars of Education
   3.1.2.2 Relevance of Indigenous Knowledge

3.2 Enactivism: A Biological Theory of Cognition

3.2.1 Enactivism: An Educational Theory
   3.2.1.1 Competing Theories of Learning

3.3 Enabling Learning

3.3.1 Listening to Student Voice
   3.3.1.1 Listening to Parent Voice

3.3.2 Rigour in Education
   3.3.2.1 Rigorous Learning

3.3.3 Education Policy
   3.3.3.1 Victorian Effective Schools Model
   3.3.3.2 Aboriginal and Torres Strait Islander Education Action Plan 2010-2014 and Closing the Gap
3.3.4 Engaging Indigenous Students
  3.3.4.1 Cultural Interface
  3.3.4.2 Ways of Aboriginal Learning

3.3.5 Discursive Learning Environment
  3.3.5.1 Two way Inquiry Learning
  3.3.5.2 Learning Circles

3.3.6 Gifted Indigenous Students

3.4 Designing Curriculum

3.4.1 The Australian Curriculum
  3.4.1.1 Aboriginal and Torres Strait Islander Histories and Cultures

3.4.2 Partnerships

3.4.3 Teaching and Learning
  3.4.3.1 Assessment and Evaluation
  3.4.3.2 Academic Learning
    3.4.3.2.1 Language: Indigenous Language Revival and Reclamation
    3.4.3.2.2 Learning with Technology
    3.4.3.2.3 Mathematics and Numeracy
    3.4.3.2.4 Science Education
    3.4.3.2.5 Learning in and through the Arts

3.5 Definition of Learning

4. Conclusion
SECTION 3. LITERATURE REVIEW

Introduction

Learning occurs in a cultural context and is enabled in an environment that promotes connectedness and empowerment. It is in this environment that a particular cultural narrative develops over time. This belief is discussed in the context of the Aboriginal worldview and the emerging ecological western scientific worldview and the related understandings of connectedness and contextualization. A theory that understands learning holistically and emanates from an ecological worldview is the theory of enactivism. This theory is relevant because an ecosystem and a learning community exhibit similar characteristics.

As previously stated in the Introduction the purpose of this research project is to explore the understanding of culture, connectedness, empowerment and learning in the Worawa Aboriginal College Community. This exploration is achieved by identifying ways in which the members of the College Community nurture and celebrate culture, foster respectful relationships among themselves and within their residential setting and classroom, consequently enabling learning through participation, contribution and the setting of high and achievable expectations. As the College operates within a two-way cultural model, where Aboriginal culture and mainstream Australian culture, combine in the Worawa Way and an Education Model, a comprehensive and focused review of the literature relating to these four concepts, that is relevant to both Aboriginal people and the wider Australian population is paramount in achieving this purpose.

The belief that learning is enabled in an environment that promotes connectedness leads to an exploration of the term connectedness and the discovery that it has more than one connotation in educational literature and another in Aboriginal literature. In Aboriginal literature it refers to connectedness to the land and people (Moreton-Robinson, 2003; Fryer Smith, 2008; Hooley, 2009; Dudgeon, Wright, Paradies, Garvey & Walker, 2010; Sarra, 2011). Three educational connotations are relevant for this research project. Connectedness means making connections within curriculum areas (Palmer, 1998; Murdoch, 1998; Stoll et al, 2003; Zygnier, 2004a). This meaning is closely associated with the understanding that connectedness means teaching and learning within a community of learners (Fullan, 1992; 1999; 2001; Hill & Russell, 1999; Palmer, 1998). Another body of literature understands connectedness as a person’s sense of belonging within the family, school and wider community (Bernard, 1991; 1997; Fuller, 1998; Resnick, Harris & Blum, 1993; Bronfenbrenner, 2005). Embedded in all these understandings of the term, either implicit (Palmer, 1998) or explicit (Bernard, 1997; Cahill, 2002) is a reference to empowerment and power (Macy, 1983; Sarra, 2011). Empowerment is further explored with an emancipatory perspective in literature analysing Aboriginal contemporary contexts (Dodson, 1995; Hooley, op cit; Sarra, op cit) and in the broader First Nations and educational literature (Freire, 1973; Shor, 1992; Dewey, 1916; Levinson & Hooley 2013).

Relevant too, are the curriculum frameworks and approaches to teaching and learning that translate Connectedness, Empowerment and Learning into practice in a cultural context and support an ecological model. These demonstrate the translation of
theory into the classroom. This search of the literature reveals the key concepts of connectedness, empowerment and learning in the context of Aboriginal and western culture evident in Australia. All four concepts are interconnected, as aspects of each are embedded in the others. It is impossible to label one as more important than the others as none is a discrete entity. Discussion of worldview as understood in both cultural contexts begins the review of the literature as this underpins the mental models from which we all operate.

1. World View

A worldview emanates from a philosophy of life or from the way a group or groups of people understand the world. Aboriginal and traditional western scientific views of the world are very different. They differ in the ways each believes the physical world to have come into being and the relationship between all elements of the physical and spiritual world. These beliefs generate the understanding of power and especially societal power. There is however, an emerging alternative worldview in the western world, which is more consonant with an Aboriginal worldview.

1.1 Aboriginal Worldview

An Aboriginal worldview presents an inviolable connection between people, the physical and spiritual worlds (Hooley, 2009; Dudgeon et al, 2010). All is connected from this perspective and relationship to the land is more than pivotal, it is ontological. This is described as ‘ontological belonging’ (Moreton-Robinson, 2003; Sarra, 2011) and this relationship constitutes the basis of Aboriginal identity (Hooley, op cit; McClellan & Tanner, 2011). The relationship with the land is bestowed on each group of Aboriginal people by the spirit world, whose involvement is described in the Dreaming. The land is sacred because of this and so people are irrevocably connected to it. Connection with the Dreaming takes place through ceremony. The spirit people created all life on the land and as they still reside in the world they must be respected. The continued involvement of the spirits means that “time rather than being linear is cyclical” (Hooley, op cit p. 39).

The land is “physically, spiritually, economically and culturally essential for survival” (Fryer-Smith, 2008, Section. 2.6) and people become one with the land in death. Relationship with the land engenders responsibility for its care and deep respect for all it encompasses. People who live in each specific section of the land respect and share responsibility for the land. This relationship between people gives rise to intricate kinship laws. According to Fryer Smith (ibid) each group of people is also characterised by language. Consequently a connection to the land that affects their very being is fundamental to an Aboriginal worldview and hence a basic element of Aboriginal culture. The term ‘culture’ is generally understood to refer to the characteristics of a particular group of people; colloquially, culture is the “stuff that glues us together” (Archer, ABC Channel 2, 2104). For Aboriginal people culture refers to their belonging to a people and a place.

Power in an Aboriginal worldview is the property of all spiritual and physical creation and therefore is ecological. This perhaps emanates from the fact that there are
no kings or supreme gods in an Aboriginal understanding of the world. The spiritual and physical are inextricably intertwined (Hooley, 2009). The deep spiritual connection to the land held by Aboriginal people and the relationship that ensues is very different from that experienced by other Australians (Choo, 2001; Hooley op cit).

1.2 Emerging Contemporary Western Worldview

Until the second half of the twentieth century the physical world was conceived by western society as a series of contained objectified entities arranged in a hierarchical order (Wilber, 1996; Edwards, 1999; Macy, 1983; Morwood, 1997; Smith 2014). Pre seventeenth and eighteenth centuries understood power in terms of the sovereign/subject relationship. The divine right of kings was largely unchallenged, as a dutiful, religious (often superstitious) population gave allegiance to their king as they did their God. The seventeenth and eighteenth centuries witnessed the Enlightenment, the rise of Rationalism, and the Industrial Revolution, which in turn produced a western scientific epistemology, and with it a distinct understanding of power. The worldview at this time encouraged analysis and control and, consequently power was described in mechanical terms, stripping western culture of its “functional cosmology” as “human meaning, belief and action were no longer located in a coherent view of the world that had been available in previous eras” (Smith, 2014, p. 19). Generally, in this way of knowing, power has a negative connotation, as its object is domination. Power dominates people, but truth frees them (Freire, 1973; Shor, 1992). Dominating power is the ‘power over’ of which Macy (op cit) speaks.

The emerging contemporary worldview understands everything as interconnected and so is much more consonant with the Aboriginal understanding of the world. This worldview does not see physical life as disconnected, separate entities, but as entities that are interrelated ontologically. As Macy (op cit) writes:

> What had appeared before as separate entities dissolve into flows, and are seen to be patterns in these flows- patterns that sustain each other by means of their relationships and exchanges. Atoms, cells, plants, people, societies...... All are dynamic patterns, or open systems within systems. They influence each other so deeply that it is hard to decide where one leaves off and the other begins. (p. 119)

Macy describes all of these systems as manifesting flexibility and intelligence as they integrate and differentiate in order to survive. This involves a process that all must embrace in order to develop (Macy, op cit; Capra, 1996; 2003). Part of this interdependent process is to “engage and enhance their own and each other’s capacities” (Macy, op cit p. 31). The locus of power changes with Johanna Macy’s (1983) description of power emanating from a worldview that understands everything as interconnected.
2. Empowerment and Connectedness

2.1 Understanding Power

Life as the western world experiences it and has experienced it for two to three hundred years is influenced by a western scientific epistemology, based on an inadequate worldview. While we have begun to value the contemporary scientific understanding of the world, the dominant concept of power in our societies is still one that values scientism or mechanistic control. This is gradually changing in certain areas as the works of Michael Foucault and Johanna Macy demonstrate. Foucault understands relations of power as permeating, so that they characterise the social body (McHoul & Grace, 1993). Foucault and Macy are relevant because, although their writing emanates from different perspectives, they exhibit significant similarities and always provide deep relevant insights.

Foucault understands that power should operate within a societal relationship and that rather than emanating from a central point, which for Foucault is the State, power should emanate from many local and regional points. Power is seen by Foucault to circulate through an organization and “individuals are vehicles of power, not its points of application” (McHoul & Grace, *ibid*, p. 89). He also stresses that power should rise rather than descend (Danaher, Schirato & Webb, 2000). This is in opposition to a hierarchical model that merely perpetuates domination. As Foucault examines different powers exhibited by a society he exposes the nature of that society. Hooley (2009) in exposing the nature of contemporary Australian society describes in detail the economic base of that society and portrays the detrimental effect of this on the marginalised. If economic success is power then those who have the least are rendered powerless. The western world understands power as hierarchical and individualistic.

The traditional Aboriginal concept of power is ecological in nature (Moreton-Robinson, *op cit*; Fryer-Smith, *op cit*; Hooley, *op cit*; McClellan & Tanner, *op cit*). Power was shared in community as all contributed to subsistence. Sufficient was taken from the land without damaging the land. People were economical in their use of resources but there was no concept of economics in the western sense of the word. Groups shared camping areas and ceremonial sites and intricate kinship laws provided a structure for communal living. Leadership and authority were shared according to these laws. Elders designated by each group were respected and their role included educating the young people. Young people had the responsibility of looking after the old. Extended family looked after the young. This understanding of power is still prevalent in Aboriginal communities, power that emanates from many local and regional points and is therefore ecological in nature. This understanding of power is consonant with the understanding of power described by Johanna Macy. In Macy’s view “power is understood as mutual and synergistic, arising from interaction and generating new possibilities and capacities” (Macy & Young Brown, 1998, p. 117).

Power in a worldview, where the universe consists of separate entities is associated with domination, invulnerability and win/lose situations. Macy (1983) and
Swift and Levin (1987) describe this as a zero sum situation. In the world-view described by Macy, power is associated with vulnerability and win/win situations. Domination involves having someone to have power over and is a product of a patriarchal society. This concept of power involving ‘power over’, according to Macy (1983) renders the particular society dysfunctional because unless an organism is open to change, it cannot develop to its full potential, as it requires assistance from all elements from the environment to do so. This concept Macy (ibid) calls ‘power with’. In Macy’s understanding ‘power over’ should give way to ‘power with’. Macy says the concept of ‘power over’ is also inaccurate because no living thing can develop in isolation as evidenced in the function of brain cells. Hamilton (2005) comments, that while this may be true when describing the development of ecosystems, people often develop in enough isolation, albeit in a dysfunctional manner, to establish and maintain significant ‘power over’ situations. Sarra (2011) uses the descriptors Power, describing mutual power in terms of transformation and agency and Power, as the dominating power. His description of agency is resonant of Macy and Young Brown’s (1998) understanding that interaction generates new possibilities and capacities. Sarra (op cit) says agency is necessary to eradicate “relations of exploitation and domination” (p. 42). This understanding of empowerment is echoed in the words of Professor Mick Dodson when he says “the empowerment of Aboriginal people” means that they “can take responsibility for their own situation and then act to change it” (Dodson, 1995, p. 143). Sarra (2007) translates this to the school setting when he states, “School is a place where you get power, where you learn how to play and win the game of life” (QUT Faculty of Education News, 20 February).

Hyllus Maris (1983), a visionary and avant-garde thinker articulated empowerment of students as a goal of Worawa Aboriginal College: “to produce an Aboriginal person versed in his/her traditions and proud of his/her identity, who has the tools and necessary qualifications to contribute effectively to the Australian community”. According to Erikson’s Psychosocial Stages (Peterson & Seligman, 2004), this is the focus of young people between puberty and 18 when “adolescents must create a set of personal values and goals by which to live, represented as a coherent identity” (p. 61). The understanding of mutual and synergistic power is currently expressed in an outcome in the Aboriginal and Torres Strait Islander Education Plan 2010 – 2014 (MCEECDYA): “Aboriginal and Torres Strait Islander students and communities are empowered through the promotion of their identity, culture and leadership in community partnerships with providers of early childhood and school education.”

2.1.1 Contact Zone

Since 1788, Aboriginal people have come into contact with white settlers in Australia. Relevant here is the effect contact with white Australia has produced on contemporary Aboriginal people. This is referred to as the contact zone (Sarra, 2011), the cultural interface (Nakata, 2007), intersubjectivity (Langton, 1993), the Aboriginal cultural matrix (Narogin, 1990) or the third space (Janz & Sumner, 2013). Aboriginal people, function in a position bounded at the extremes by an Aboriginal worldview and a western scientific worldview. While a continuum implies linear progression, movement between these two extremes is very rarely linear. Janz & Sumner (ibid) describe the third space in a non-linear manner, within an infinity diagram. Sarra’s (op
Sarra (op cit) uses the term “recruited” (p. 81) to describe contemporary Aboriginal people who have been convinced to adopt the less desirable attributes of white Australian society. These people often refer to those who have become successful in both cultures in a derogatory manner. He notes however, that from an emancipatory perspective Aboriginal people are well able to operate effectively within white culture but for non-Aboriginal people, this “can never be entirely reciprocated” (p. 92), as no matter how well versed they are in Aboriginal issues or how well they are respected by Aboriginal people, non-Aboriginal people can never fully function as an Aboriginal person, at an ontological level. Sarra postulates the resultant possibility of over time the slave becoming the master.

Sarra’s data generated by 18 Aboriginal people connected to Cherbourgh State School, who have a positive view of their Aboriginal heritage sought answers to the questions:

*What is it that makes an Aboriginal person Aboriginal in today’s society?*
*What is it that makes an Aboriginal different from Mainstream Australians?*
*What do today’s young Aboriginal people need to understand about being Aboriginal in today’s society?* (p. 89).

Their answers include, having a sense of pride in who they are, respecting their Elders, acknowledging, honouring and attending to the needs of family and locating people in the context of their family, as well as connections to the land and spirituality. Elaborations by the respondents relate pride and consequent strength to “knowing that we been here for thousands of years” (p. 91) and “[i]ts like we can mix it in your world but you can’t really come into ours” (p. 92). Respecting Elders is appreciated by the respondents and relates to their understanding of mainstream Australia with the comment, “[w]hen white people get old they stick them in an old people’s home and might go and see them with their kids maybe Christmas time if they’re lucky… I just couldn’t do that…..(p. 93). Elders and ancestors are connected with their understanding of spirituality as it is through them they access the Dreaming. Connections to the land evoke connection to special places that were visited in childhood, to the people in those places and to the desire to return there. Also the consequences of being taken away from the land are expressed and range from responses about their personal situation to responses about historical occurrences and the need to keep fighting for their rights. Sarra notes the limitations of the study and the value of conducting such a study with people from remote communities, metropolitan and urban communities. Despite the limitations this study contributes to the understanding of a complex issue and highlights the fact that there can be no simple description of what it is to be Aboriginal in contemporary Australia as Aboriginal people are far from a homogenous group (Santoro, Reid, Crawford & Simpson, 2011).
2.2 Empowerment in an Aboriginal Context

Recreating cultural identity and pride in that identity provides a sound basis for revaluing Aboriginal knowledge and epistemologies (Hooley, 2009; McClellan & Tanner, 2011). It also assists in “the process of healing and building collective confidence and pride” (ibid p. 31) so people know who they are and where they belong and are proud of who they are (Janz & Sumner op cit; Dobia, Bodkin-Andrews, Parada, O’Rourke, Gilbert, Daley & Roffey, 2014; Smith family 2014). For all of this to be achieved a culturally safe environment is paramount (Bin-Sallik, 2003; Williams, 1999). Definitions of empowerment include giving authority or power to people in order to put them in control of their future (McClellan & Tanner op cit), allowing people to develop increased control and mastery so they are better able to deal with the forces that affect their lives (Syme, 2003) and the ability to act with confidence in order to direct one’s own life within the context of school (Hamilton, 2005). A greater capacity to deal with daily challenges without being overwhelmed by them (Syme, 1998) is a by-product of empowerment as defined above. The Empowerment Research Program (Louth, 2010), undertaken by the North Queensland Health Equalities Unit at James Cook University in Cairns (2001-1010) documented the beliefs underpinning the project. These are the fundamental desire of people to live meaningful and purposeful lives by building their strengths that individuals are decision makers, with choices and preferences and consequently there is the possibility of becoming masterful, able and empowered. They also documented the changes that Aboriginal participants identified as results of the project. The participants said they had gained an understanding of self including the ability to control thoughts and feelings, recognise their potential strengths, establish personal stability by dealing more effectively with everyday life and in protecting and caring for self. They also reported that in reaching for individual higher goals they had strengthened spiritual and cultural identity and they were feeling and showing signs of emotional health.

Empowerment in an Aboriginal context is possible only in a culturally safe environment (Bin-Sallik, 2003; Williams, 1999). Williams (ibid) defines cultural safety as:

*An environment that is spiritually, socially and emotionally safe, as well as physically safe for people; where there is no assault challenge or denial of their identity, of who they are and what they need. It is about shared respect, shared meaning, shared knowledge and experience of learning together. (p. 15)*

Bin-Sallik (op cit) adopts this definition. The term ‘cultural safety’ originated in the work of Maori nurses such as that of Ramsden (1992). In the Australian context, Williams (op.cit) says her work grew out of frustration as a lecturer and the requirements of the institution versing the needs of Aboriginal and Torres Strait Islander learners. She maintains that “culturally appropriate programs/approaches are crucial in enhancing personal empowerment” (p. 3) and that “the people most able or equipped to provide a culturally safe atmosphere are people from the same culture”
She argues that this “goes back to the basic premise that people need to do it for themselves rather than someone doing it for them, becoming active rather than passive citizens” (p. 7). Included in her set of minimum or generic principles required for the establishment of a culturally safe environment, are respect for culture, knowledge, experience, and obligations, so people are treated with dignity and are able to operate in a culturally appropriate manner. A clearly defined pathway for empowerment is necessary, in which people have the right to promote, develop and maintain their institutional structures, traditions and practices and where there is more than one way of operating. There must be no assault on identity in order that people are allowed to be who they are, rather than adopt a persona defined by somebody else’s criteria. People must also have access to the pre-requisites that enable them to participate effectively in the system of the dominant culture. Bin-Sallik (op cit) maintains that the term ‘culturally safety’, because it does not imply “special treatment” (p. 27) should replace terms understood to be pejorative, such as ‘positive discrimination’ and ‘equal opportunity’. Cultural safety is a term that relates to all cultural groups. In a culturally safe environment people are empowered to be proud of their identity and enhance self esteem.

2.2.1 Self Esteem: Affirming and Recreating Cultural pride

Successfully recreating pride in cultural identity enables a person to value themselves (McClellan & Tanner, 2011). This is a critical tool in enhancing self-esteem and raising one’s aspirations for the future (Bandurra, 1977a). Self esteem or self concept (Manning, 2007) is related to the evaluation of one’s worth as a person (Maslow, 1943; Sigelman and Rider, 2009) and is related to self-confidence, which also affects motivation to improve performance (Woods, 2001). Louth (2012), when discussing self-esteem in an Aboriginal context identifies the ‘shame’ factor as problematic in developing self esteem in individuals as their motivation in an education setting is to “avoid failure rather than seek success” (p. 2). This may be linked to the more common definition of “shame” which refers to the desire to be designated as part of the group rather than as an individual. Leitner & Malcolm (2007) identify ‘shame’ as embarrassment in certain situations. This embarrassment is often due to attention bestowed, rather than as the result of personal action (Vallance & Tchacos 2001). In an educational setting a successful student may be singled out, an undesirable occurrence for many Aboriginal students.

Louth (op cit) sees the recognition and celebration of Aboriginal culture as the key to improving educational outcomes. This resonates strongly with the words of Hyllus Maris (1983) when she stated that Worawa Aboriginal College was founded “to produce an Aboriginal person versed in his/her traditions and proud of his/her identity, who has the tools and necessary qualifications to contribute effectively to the Australian community”. Louth (op cit) and Sarra (2011) also highlight, the necessity of nurturing community-wide respect for Aboriginal people and their culture as this in itself will lead to enhanced self-esteem within Aboriginal communities. Respect of self engenders pride and a strong sense of self, which in turn promotes connectedness within and without the community. This understanding is corroborated by research undertaken by the National Association for the Prevention of Child Abuse and Neglect (NAPCAN) discussed in a subsequent section. It forms the basis of their program for Aboriginal girls, ‘Aboriginal Girls Circle’ (Dobia et al., 2014) and the
Wirrpanda Foundation’s program ‘Deadly Sista Girlz’ (Janz & Sumner, 2013), both discussed in subsequent sections. If educators absorb this understanding and act accordingly, the resulting education structures will exhibit equal power, mirroring a truly democratic approach to learning and be instrumental in addressing social inequalities (Hooley, 2009).

In the general community, self-esteem, particularly for girls, appears to decline in adolescence (Robins et al., 2002). Aboriginal girls, as well as being vulnerable to perceptions of the ideal body image, a possible cause of low self-esteem in adolescent girls, have also to contend with the problems described in the previous paragraph. In addition many have poor health, particularly when compared to the overall Australian statistics (Australian Indigenous Health Infonet, 2012) and are often subject to domestic and family violence (Arabena, 2012). Poor physical health prevents attendance at school, which in turn inhibits learning and educational achievement (Harrison, 2011). Poor physical health and lack of physical activity is also identified as a contributing factor to low self-esteem in middle school students (Tremblay, Imlay & Willms, 2000). The need for physical health is the lowest level of Maslow’s (1943) hierarchy of needs theory, a theory that has made a major contribution to education. Maslow in a holistic approach to education and learning explores the entire physical, emotional, social and intellectual qualities of an individual and how they impact on learning. Before a student's intellectual needs, the level of self-actualisation can be met, they must first fulfil their basic physiological needs. Students need to feel emotionally and physically safe and accepted within the classroom to progress further up the levels and also must be shown that they are valued and respected in the classroom through the teacher creation of a supportive environment. The Key Features of Effective Teaching (Rowe, Wilkin & Wilson, 2012 in Gilbert, 2012) demonstrates how teaching approaches and teacher characteristics combine with the teaching environment to address Maslow’s (1943) needs in their students. The needs are:

1. Physiological
2. Safety
3. Love: affection and belongingness
4. Esteem
5. Self-actualisation.

Maslow (ibid) describes the third level as the need to be loved and to belong. A sense of belonging is fundamental to connectedness (MindMatters, 2000).

2.3 Empowerment in an Education Context

Community capacity involves developing, implementing and sustaining actions that enable the specific community to control the physical, social, economic and cultural elements of its environment Hounslow (2002). To use the term ‘capacity building’ in relation to any community implies capacity is non-existent. ‘Capacity-strengthening’ is preferable, as it acknowledges existing capacity. The term ‘capacity building’ was introduced into policy concerning Indigenous Australians in 1996 in the context of the reduction of Indigenous dependency on welfare and the encouragement
of local participation in partnerships (Tsey, McCalman, Bainbridge & Brown, 2012). Aboriginal people reacted strongly to the deficit terminology, their thoughts being reflected in Ahmet’s (2001) words:

> I talk about restoring, rather than building capacity in our people... we [have] had 40 to 60,000 years of survival and capacity! The problem is our capacity has been eroded and diminished. .... I caution about the concept of “capacity building”, ....the new buzzword of Aboriginal policy and social policy generally... the concept of “capacity building” [is] the idea that Aboriginal people are innately deficient, or incapable, or ...lacking ... there is a danger of fostering a hidden bureaucratic racism and prejudice against our people... our people do have skills, knowledge and experience! And our people are not imbeciles. We are fully-fledged human beings who are quite capable of looking after our own children and fighting for their future. So when we talk about capacity building – keep this in mind (Tedmanson, 2005, p.2).

Rigney (2002) had already highlighted Indigenous capacity when he said, “[u]nder Aboriginal educational jurisdiction, Indigenous children have long been successful in education for forty thousand years or more. It is only in the last 200 years of colonisation that Indigenous failure has occurred” (p. 75).

While Closing the Gap draws on research to support its use of the term ‘capacity strengthening’ (Tsey, McCalman, Bainbridge & Brown, op cit), the term is used in the context of productive partnerships in governance. Drawing on Hunt & Smith (2006) ‘capacity strengthening’ is defined as “accessing opportunities and processes to enhance an organisation’s abilities to perform specific functions, solve problems, and set and achieve goals; that is to get things done” (p.4). Hunt & Smith (2007) acknowledges that Capacities are culture specific. This often will be problematic for productive partnerships, particularly as Hunt & Smith (ibid) found that “at least half the so-called ‘Indigenous governance problem’ actually lies in government’s own capacity” (p.29). They also found that where the Indigenous people drove the agenda and made decisions about their future direction, existing capacity was called upon and “latent capacity appeared to be mobilised. Local leadership re-emerged and people demonstrated capacities not previously evident” (p. 29-30). This corroborates Ahmet’s (op cit) call, “To restore capacity in our people is to let us be responsible for our own future” (p. 75. According to Dodson (2002), legitimacy, leadership, power, resources and accountability are the hallmarks of good governance.

### 2.4 Connectedness and Contextualization

#### 2.4.1 Bronfenbrenner

Everything in an Aboriginal and the emerging western worldview is connected. The word ‘connected’ is relevant in the areas of psychology and education. Contemporary psychologists have developed the term ‘connectedness’ to express an essential ingredient for human living (Bernard, 1997). Discussion and debate
continually returns to the concept and understands it as absolutely essential, if schooling is to be effective (Bernard, *ibid*; Hill & Russell, 1999). Consequently relationships are core. Bronfenbrenner (1993; 2001) has also applied this directly to education, as he understands children’s development to be contextualised within the relationships formed within their environment. Through the promulgation of his general ecological model of human development Bronfenbrenner translates the notion of interdependence into the educational psyche. He describes human development as a complex, reciprocal, interactive and evolving process, involving the immediate and remote environments in which a child interacts on a regular basis. Bronfenbrenner (1993) defines five contexts of development. The first is a microsystem consisting of the elements both human and otherwise, of the environment in which the child interacts closely and regularly. Important in this context are family and school. The second context comprises the links established between settings in which the child interacts and so the relationship between family and school constitutes a mesosystem. A mesosystem incorporates a system of microsystems. The third context is defined by Bronfenbrenner as an exosystem, which is the combination of a number of settings, one of which does not contain the child. This may be the relationship between family members and their workplaces. The fourth, the macrosystem combines microsystems, mesosystems and exosystems and pertains to the culture of the community in which the child resides. The fifth, the chronosystem pertains to all of these but in addition acknowledges changes over time that affect the community and so affect the child, even though significant events may have occurred some time before the child was born. Through these contexts educators are alerted to the environment both immediate and remote as interconnected and interdependent contexts in which the child develops.
Bronfenbrenner’s (*op cit*) notion of interdependence is relevant for Aboriginal community living as history and culture shape contemporary life (Dugeon et al, 2010). Aboriginal people have a strong sense of kinship involving commitment to family and extended family (Fryer-Smith, 2008; Hooley 2009). Relationship to people is reflected in the intricate kinship laws governing communities. Through these, “each person knows precisely how to behave in relation to every other person” (Fryer-Smith, 2008, p. 54). Particularly relevant for educators of Aboriginal students is Bronfenbrenner’s ‘chronosystem’, which acknowledges the changes over time that affect the community and so affect the child, even though significant events may have occurred some time before the child was born. Since white invasion of Australia commencing in 1788 (Ballyn, 2011; Hooley 2009; Sarra 2011) Aboriginal people have been displaced, the victims of policies and practices promoting genocide, had their children forcibly removed and they “continue to face the stresses of living in a racist world that systematically devalues Indigenous culture and people” (Dugeon et al, 2010, p. 56). These experiences of Aboriginal communities over time and
continuing into the present have “profound effects on health and social and emotional wellbeing, for individuals, families and communities” (Dudgeon et al, 2010).

2.4.1.1 Take 2: ‘Yarning Up On Trauma’: ‘Calmer Classrooms’:

‘Take Two’ is an intensive therapeutic program for children who have suffered trauma, neglect and disrupted attachment. It is devised by Berry Street and offered in Victoria, funded by the Department of Human Services. The training available through Berry Street is called ‘Yarning Up On Trauma’ and the specific component outlining suitable strategies for teaching students who experience trauma, neglect or disrupted attachment is called ‘Calmer Classrooms’. Underpinning these programs is an understanding of Attachment Theory.

“Attachment is a general term that describes the state and quality of an individual’s emotional ties to another” (Becker-Weidman, 2005, p.7). In the context of Attachment Theory as it relates to childhood, it refers to the way a child relates to others or feels about him or herself. Recognition of adults as ‘safe’ or ‘unsafe’ depends upon the experience of the individual. Attachment Theory has largely evolved from the perspective of a western, individualistic social context (Coade & de Wolf, 2008). The ‘Yarning Up On Trauma’ training documents warn that it is important for adult carers to realise that Aboriginal people have a more connected understanding of society and will think of themselves collectively, rather than as individuals. In most Aboriginal communities a child has multiple caregivers and it is this attachment network that gives the child a sense of security. The extended family and sometimes the whole community are part of the attachment network.

Trauma impacts on attachment. Trauma may be personal in that an adult who has not experienced a secure childhood is less likely to be able to provide a secure childhood for their children. Trauma may be inter-generational as children, who were raised in institutions may not understand any other experience of childhood and so have no other relevant model to follow. Grief and loss often results in ineffective parenting techniques. Trauma also tends to have a ripple effect and so many people can be affected. Coade and de Wolf (ibid) warn of the collective sense of suffering often experienced in Aboriginal communities and that this pain and suffering will affect the children of that community. This understanding is congruent with Bronfenbrenner’s (op cit) ‘Five Contexts of Human Development’.

Chronic abuse or neglect in childhood “affects the mind, the developing brain, the body, the spirit and relationships with others ….. the child’s capacity to regulate emotions and reactions” resulting in a condition called “affect dysregulation” (Downey, 2007, p.3). A person suffering from “affect dysregulation” is rendered helpless, as the force is overwhelming. The result may be either hyperarousal or dissociation. Self-harm and addiction are also likely consequences. Thinking is difficult if not impossible under these circumstances and a sense of shame can add to the complexity of the state of a sufferer.

Van der Kolk (2007) argues that childhood trauma is a most important public health challenge and a challenge that could be overcome by appropriate prevention and intervention. His work demonstrates links with persistent physical health
problems, intergenerational transference of negative attitudes, troubled behaviour and historical trauma across family and communal systems. He also argues that childhood trauma violates a child’s sense of safety and trust and reduces their sense of worth, increases their levels of emotional distress, shame and grief, and increases the proportion of destructive behaviours evident in their daily lives. Destructive behaviours include unchecked “aggression, adolescent suicide, alcoholism and other substance misuse, sexual promiscuity, physical inactivity, smoking, and obesity” (pp. 226–27).

‘Calmer Classrooms’ outlines suitable strategies for teachers with students who experience trauma, neglect or disrupted attachment. These include, teacher managing the teacher’s own reactions to minimise emotional arousal on their own part, providing structure and consistency, acknowledging good decisions and choices, setting limits on unacceptable behaviour, connecting rather than rejecting, having consequences rather than punishment for actions and overall maintaining the role as teacher.

2.4.1.2 Mindfulness

Mindfulness and Concentrative are the two traditionally identified forms of meditation (Goleman, 1988). Mindfulness meditation “primarily cultivates an ability to bring a non-judgmental sustained awareness to the object of attention” (Kristeller, 2007, p. 393). The focus in mindfulness meditation is broader, more open and fluid than in a concentrative method, proving effective in the management of stress (Kristeller, ibid) and anger (Bankart, 2006). It is the “most scientifically investigated form of meditation” (Hassad, 2014, p. 1). Hassad (ibid) articulates explicit links to education as not only does the practice of mindfulness assist operation under pressure by increasing focus and enabling more efficient use of time but it also enables people to “foster a growth mindset which is more conducive to learning” (p. 3). Dweck (2006) argues that it is a person’s mindset that creates the mental model from which they operate.

In language accessible to the general public, mindfulness meditation is described as “a non-religious form of meditation using present moment awareness to bring peace, calm and relaxation” (Sheedy, 2014a). Sheedy encourages the use of the technique in the form of utilising ‘mindful moments’ during each day because “Mindful Moments offer you a way to become more present in day-to-day life to feel calmer, more in control, more balanced and have more choice in how you react to daily demands” (Sheedy, 2014b). Emotions play an integral part in the manner in which a person is present in day-to-day life. Positive emotions are the focus of the ‘Broaden and Build’ theory (Fredrickson, 1998). This theory “states that positive emotions widen people’s outlooks in ways that, little by little, re-shape who they are” (Fredrickson, Cohn, Coffey, Pek & Finkel, 2008, p. 1045). Frederickson et al, (ibid) argue, based on their findings in a rigourous study, that positive emotions enable people to focus and think more broadly and so give them an ability to respond at a higher level in a range of ways. Consequently, these people are able to identify and develop intellectual, physical, social and psychosocial resources. Through these resources, they are able to be mindful, healthy, give and receive emotional support and move effectively within their environment. They do note however a limitation of their study,
“the sample was predominantly White, educated, and motivated for self-change” (p. 1059).

The cultivation of mindfulness is moment to moment and involves a non-judgmental awareness of day to day experiences as they occur in the present moment (Baer, 2003). The goal of the process is to develop a “stable, non-reactive awareness of one’s internal ... and external..... experiences (Kristeller, op cit p. 395) and so free the mind to focus on what is “most useful and helpful” (Hassad op cit p. 1). Freeing the mind is the goal of Buddhist mindfulness meditation, a practice integral to Buddhism (Frondsal, 2006). Preceding the attainment of this state a person must know and train their mind. Once someone is able to free the mind they can access a wide range of effects including physical relaxation and emotional balance. This in turn affects the relationship with self and others and so leads a person to “respond to life more mindfully” (Kristeller, op cit p.395). Responding in this way brings relief from stress. Hassad (op cit) describes sustained stress in relation to the physiology of the human body including, detrimental effects on the immune system, hardening of the arteries, high blood pressure, osteoporosis, atrophy of brain cells and the enlargement of the fear and stress centre of the brain. Gawler and Bedson (2010) cite ‘stillness’ as the ultimate state in mindful meditation. Rather than understanding stillness as nothing or static, they understand stillness as enabling alertness through being present in a non-reactive manner.

There are stages in developing the meditative process. These include the ability to dis-engage from a source of stress by focussing on breath (Kristeller, op cit) or an object (Centre for Clinical Interventions, 2007). In the latter, close observation and description of the sensual elements of the object is encouraged. Reflection in a non-reactive manner leading to self monitoring follows. A non-judgmental stance is important in avoiding negative emotional reactions and so it is important to obviate emotional labelling (Centre for Clinical Interventions, ibid). Consequently a person becomes aware of how to intentionally dis-engage from any source of stress and so “suspend reactivity” (Kristeller, op cit, p. 396). The structure of most programs is based on that devised by Kabat- Zinn, (1990), and usually takes place over eight weeks in 2-3 hourly sessions for 25 participants. Sessions include breath awareness and body scan meditations, sitting and walking meditations and yoga. Training the mind might focus on kindness and compassion as this enables participants to learn more about their own minds. This training may “reveal mental conflict with ourselves, others or the inconstant nature of life” (Frondsal, op cit p. 1). Group discussion is important in these sessions as people explore how to become kinder and more compassionate with themselves and others. They learn to accept life as it is lived from moment to moment, to be more relaxed with occurences and not to judge themselves too harshly. They also strive to free themselves from clinging to things such as self-image, things which limit the mind’s capacity to find freedom and peace, also called freeing their hearts (Frondsal, op cit).

The classification of character strengths in terms of virtues in the realm of Positive Psychology (Peterson & Seligman, 2004) may inform the implementation of mindfulness and the development of a growth mindset. Peterson & Seligman (ibid) define virtues as “the core characteristics valued by moral philosophers and religious thinkers: wisdom, courage, humanity, justice, temperance and transcendence” (p. 13). Character strengths are defined as “the psychological ingredients – processes or
mechanisms – that define the virtues….they are distinguishable routes to displaying one or other of the virtues” (p. 13). For example the virtue of transcendence exhibits the character strengths of appreciation of beauty and excellence, gratitude, hope, humour and spirituality. According to Peterson & Seligman (ibid) there is strong relationship between Erikson’s Psychosocial Stages and the building of characters strengths when they claim, “satisfactory resolution of a stage results in a character strength” (p. 61). Situational themes are also important as these are the “specific habits that lead people to manifest given character strengths in given situations” (p. 14). People are understood to have signature strengths that enable them to operate successfully in various situations in their lives. “ A strength contributes to various fulfillsments that constitute a good life for oneself and for others” (p. 17). The identification of signature character strengths and development of positive thoughts, which contribute a growth mindset assist people to combat trauma and stress. This in combination with mindfulness meditation enables the passage of life to be more focused in a calm, positive manner. This not only affects the person themselves but all those with whom they come in contact.

2.5 Connectedness and Resilience

Connectedness is a person’s sense of belonging within the family, school and wider community (Bernard, 1991; 1997; Fuller, 1998; Resnick, Harris & Blum, 1993).

2.5.1 The Resilience Literature

In education, the term ‘connectedness’ has its origins in the body of literature known as ‘Resilience Literature’ (Bernard, 1991; 1997; Burns, 1996; Fuller, 1998; Resnick, Harris & Blum, 1993). The resiliency paradigm presents an ecological model in that it is developed within and enhances both individual and community (Fuller, 1998). Social cognitive theory, in particular the concept of self-efficacy, which is associated with the current understanding of wellbeing underpins this literature. Self-efficacy involves empowerment as it enables young people to take control of their destinies, even in very difficult situations (Bernard, 1997). Consequently, there is a close connection between connectedness and empowerment.

Three broad categories are defined that elicit and foster resiliency in children. They are:
1. Caring relationships,
2. High expectation messages,
3. Opportunities for meaningful participation and contribution.

The primary concern in this body of literature is the social and emotional wellbeing of children across the world born into high-risk conditions (Burns, 1996). These include “families where parents were mentally ill, alcoholic, abusive or criminal, or in communities that were poverty stricken or war torn” (Bernard, 1996, p. 7). The underlying premise is that “we are all born with innate resiliency…our inborn capacity for self-righting” (Bernard, 1996, p. 7-8) or “the ability to bounce back,
recover from, or adjust to misfortune or change” (Burns, 1996, p. 94), which has also been described in terms of bungy jumping (Fuller, 1998). A resilient person develops the traits detailed in Table 2.1:

Table 3.1 Characteristics of a Resilient Person (adapted from Bernard, 1991)

<table>
<thead>
<tr>
<th>Traits</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social competence</td>
<td>Responsiveness, Cultural flexibility, Empathy, Caring, Communication skills, A sense of humour</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Planning, Help-seeking, Critical and creative thinking</td>
</tr>
<tr>
<td>Autonomy</td>
<td>Sense of identity, Self-efficacy, Self awareness, Task mastery, Adaptive distancing from negative messages and conditions</td>
</tr>
<tr>
<td>A sense of purpose and belief in a bright future</td>
<td>Goal direction, Educational aspirations, Optimism, Faith and spiritual connectedness</td>
</tr>
</tbody>
</table>

2.5.1.1 Protective and Risk Factors

The resilience literature presents a list of protective factors and risk factors. Protective factors are “those factors that buffer against the stresses of everyday life that might otherwise result in adverse physical, social or psychological outcomes for youth” (Resnick, Harris & Blum, 1993 p. 3). One of these protective factors is connectedness. The term developed from the area of caring relationships in which an understanding of adolescents’ social relationships and feelings of connections to others as they experience life was deemed to be paramount. The term is currently defined as “[a] person’s sense of belonging with others. A sense of connectedness can be with family, school or community” (Commonwealth Department of Health and Aged Care, 2000, p. 123). Connectedness to school is a significant protective factor (‘MindMatters’, 2000; Resnick, Harris & Blum, op cit) and connectedness to one caring adult is sufficient to foster resilience (‘MindMatters’, op cit). Henderson (2013) advocates the use of ‘The Resiliency Wheel’ (p. 24) in schools. The wheel identifies six resiliency-building conditions. The first and most important is the provision of caring and support, followed by set and communicate high expectations, provide opportunities for meaningful participation, increase prosocial bonding, set clear, consistent boundaries and teach life skills.
As indicated in Table 2.1, connectedness is understood as a basic need if we are to create socially competent people. In an ecological model the emphasis is on the protective processes rather than programs. We need therefore, to work at the level of relationships, beliefs and opportunities for participation and consequently empowerment (Bernard, 1997). For Bernard, the process of connectedness, that is linking children to adults, to interests and ultimately to life in order to build a sense of belonging is essential to produce a socially competent person. This is in accord with the work of Brophy who maintains that “consistent projection of positive expectations, attributes, and social labels to students may have a significant impact on fostering self-esteem and increasing motivation toward exhibiting prosocial behaviors” (Brophy, 1996, p. 2). Resnick, Harris and Blum, (1993) highlight school connectedness as the most important protective factor against the ‘acting out’ behaviours in both boys and girls and the second most important against the quietly disturbed behaviours. The message is clear for schools. They must provide opportunities for all students to develop a wide range of competencies.

The concept of resilience is taken beyond students however, as Kruse and Louis (1998) advocate the need for resilient teachers. This in recent literature is applied to all people as “[e]veryone regardless of age or circumstance has the capacity for resilience” (Truebridge & Bernard, 2013, p. 66). Sergiovani (1993) speaks of belonging and connectedness in the context of community as a universal need. He takes the discussion well beyond the realm of the highly ‘at risk’ student. Sergiovani (ibid) highlights the fact that we all need a sense of belonging, continuity, connectedness, caring and respectful relationships and opportunities to make decisions in order enable these for our youth. Personal empowerment happens within community.

2.5.1.2 Resilience in Aboriginal Girls

The final report, ‘Aboriginal Girls Circle: enhancing connectedness and promoting resilience for Aboriginal girls’ (Dobia et al., 2014) published by the National Association for the Prevention of Child Abuse and Neglect (NAPCAN) focused on resilience, connectedness, self concept and cultural identity of Aboriginal girls who took part in the program, ‘Aboriginal Girls Circle’ (AGC). The program uses the ‘Circle Solutions’ framework (Roffey & McCarthy, 2013) incorporating a strengths and solutions approach and is “an intervention targeted to increase social connection, participation and self confidence amongst Aboriginal girls attending secondary school” (ibid p. 3). During the program the girls shared their cultural identity within the group and chose their topics for discussion in order to share and deepen their understanding. The program developers, working with community Elders acknowledge the importance of a cultural base for Aboriginal Girls Circle, as wellbeing, self-concept and success are inextricably entwined in the context of cultural identity. This understanding is also evident in other programs developed specifically for Aboriginal girls (Janz & Sumner, 2013; Smith Family, 2014).

The first stage of the research into the success of the intervention involved community Elders, school personnel and program developers in observations in the field, interviews and focus groups. The researchers found that all stakeholders understood
the girls to have grown in confidence and they also noted that greater resilience was suggested by their taking a “more considered approach to conflict” (ibid p. 3). All reported that the girls felt more connected to each other and there was an increase in school participation. The researchers also used quantitative tools and found a significantly higher incidence of empathy in the girls who participated in the AGC compared to the rest of the sample. This as well as other internal resilience factors, such as problem-solving, self-efficacy, self-awareness, cooperation and communication is strongly influenced by peer relationships, which are fundamental to social and emotional development. Indicators of environmental resilience include the school and community setting as these provide support and meaningful participation. Consequently peer relationships, home support and meaningful participation combine to provide a sense of connectedness and enjoyment of school. School connectedness is also strongly related to “taking part in cultural events, learning cultural stories and protocols, being involved with community and Elders and taking pride in one’s culture” (ibid p. 4). The researchers could confidently report that the quantitative data supported the views expressed in the qualitative data.

2.6 Leadership in an Ecological Model

“Leadership exists at all levels including principals, teachers and community and involves capacity building for high expectations through the development of lateral school and community networks.” (Hooley, 2009, p. 83)

This ecological description of leadership incorporates the concept of shared leadership in the context of the high expectations, components that Hooley (2009) understands as essential for the development of a model of schooling appropriate for Indigenous students, indeed for all students, no matter their cultural heritage. As previously noted, setting and communicating high expectations is one of the resilience building categories (Bernard, 1993; Henderson, 2013). High expectations are also an essential component of all student learning Sarra (2011; Gilbert 2012). Sarra laments the fact that more often than not schools exempt Indigenous students from this mandate and goes on to comment, “regardless of student outcomes life goes on!” (p. 119). Models of leadership that focus on improved student outcomes and understand the achievement of these to be the focus of all members of the learning community are relevant.

Shared leadership (Lambert, 2002) is closely associated with ‘distributed leadership’ (Hargreaves & Fink, 2004; MacNeill & Silcox, 2006; Gilbert, 2012) and ‘parallel leadership’ (Crowther, Hann & Andrews, 2002; Crowther, Kaagan, Ferguson & Hann, 2002). These approaches recognise that leadership is the role of all members of the school community rather than the role of one or few individual members (Bezzina, 2007; Gilbert, 2012). The concept of ethical leadership (Starratt, 2004) is essential if these approaches are to be effective as it relates to the moral purpose of leadership. Moral purpose within a model of shared leadership results in the prime focus being the constant improvement of student achievement and “ensuring that achievement gaps, wherever they exist are narrowed” (Gilbert op cit p. 62). Starratt (2005) articulates six criteria for promoting morality intrinsic to teaching and
learning. They include, establishing good working relationships with colleagues and students, articulating personal and civic values and meanings in the curriculum being taught, translating various units of the curriculum into personally and publicly meaningful learning that connect with students’ sense of identity, membership and participation in the natural, cultural and social worlds, cultivating a sense of responsible participation in the world, and developing with learners, rubrics for personally authentic learning.

2.6.1 Leadership within the Learning Community

All members of the school community need to develop personal leadership qualities that enable learning in their students and in the adult members of the community. The qualities of Servant Leadership especially evident in a democratic school according to Crippen (2005), are listening, empathy, healing, awareness, persuasion, conceptualisation, foresight, stewardship, commitment to the growth of people and building community. All these qualities assist in developing the demeanour and actions valued by an ecological community. While the principal occupies a central position they are people within this model who do “not emphasise a pyramidal or top-down structure” (Hooley, 2009, p. 132) but actively assist all, experienced leaders and inexperienced leaders to play a relevant leadership role in the school community. Fink (2008) says that in doing this control gives way to collaboration. In order to achieve this, a clear purpose driven by ethical standards is necessary. Building relationships, understanding and managing complex change to create shared knowledge and developing structures to facilitate these endeavours, must be elements of this model of leadership. This understanding of leadership is significant in that it ensures the development of structures that “enable Indigenous families, children and Elders to participate as respected equals in the learning process” (Hooley, op cit, p. 127) in the company of a variety of school personnel. It is also a truly ecological understanding of leadership as at appropriate times different elements of an ecosystem lead its development.

2.6.1.1 Appreciative Inquiry Model

A model of inquiry that assists leaders in organisations to negotiate change by utilising the skills of all members is the Appreciative Inquiry Model. The model is consonant with an ecological model in that it assumes the social construction of organisations (Bushe, 2013) and that “people co-construct the organisations they inhabit” (p. 2) and hence they collaborate which is a necessary component of successful change (Wenger, White, Smith & Rowe, 2005; Thompson, 2010). Organisations are living systems formed by “self-organising networks of communication” in which “creativity, learning and growth are inherent” (Fink, 2008, p. 4) and so they by nature will be fluid and fluctuating (Capra, 2002). The five principles of Appreciative Inquiry incorporate a dynamic understanding of the change process and emanate from a positive rather than deficit perspective (Kessler, 2013). The positive nature is stressed with participants required to commence with their image of the future and collaboratively develop questions that will lead to the co-authoring of their continuing narrative. Reflecting and imagining are essential to the process. When actions have been decided the process that follows is improvisational,
rather than implemented via a formal plan. Consequently no one person can dictate the manner or order in which actions happen and power is distributed rather than hierarchically imposed as “everyone is authorised to take those actions they believe will help them bring the design to fruition” (p. 4). In this way the conditions are created for self-organising processes to develop positively (Bushe, 2012). Leadership provides monitoring and support of the process in the manner they decide and they “create events and processes to energize emergent and self-organizing change” (p. 4). When leaders try to initiate change unilaterally, they are generally unsuccessful in engaging others in the process (Ogbonna & Wilkinson, 2003), as it is the initiative and commitment of all staff in a school that leads to successful change (Gilbert, 2012). Bushe (2013) acknowledges that while different approaches to the use of the model have developed over time, it has emerged that “widespread, synchronous” (p. 4) engagement in the process leads to successful change in a given organisation. Overall he understands the focus on possibilities and generativity rather than on problems and problem-solving is significant in gaining the optimal benefits from an organisation engaging with the Appreciative Inquiry Model. This model recognises that every social system has characteristics that are life-giving and if these are strengthened then the organisation’s capacity and vitality are increased (Cooperrider & Avital, 2004). It must be kept in mind however that time is the essence and that Fullan’s (1999) advice that the change process takes five to seven years is still relevant.

2.6.1.2 Leadership for Learning

*Leadership for learning is not a destination with fixed coordinates on a compass, but a journey with plenty of detours and even some dead ends* (Fink, 2008, p. 22)

Shared leadership is insufficient in the absence of leadership for learning, or pedagogic leadership. Pedagogic leadership is essential in an ecological model as “[p]edagogic leadership takes into account the “Why?” “How?” and “When?” of learning, not just the “What?”” (MacNeill, Cavanagh & Silcox, 2005, p. 6). This understanding moves well beyond the technique of teaching. According to MacNeill, Cavanagh & Silcox (*ibid*), instructional leadership, mainly focuses on the role of the principal rather than the classroom teacher, and uses the word ‘instruction’, which is “a limiting, clinical term that relates to one part of the teaching and learning cycle” (p. 4). The word ‘instruction’ is not a synonym for ‘teaching’ or ‘pedagogy’. Dialogue is a major element of pedagogic leadership; monologue has no place here. Pedagogic leaders are guided by their beliefs about teaching and relate in a meaningful way to their students and colleagues. They are conscious of the moral purpose of their actions as “moral purpose and the sustained performance of organisations are mutually dependent” (Fullan, 2001, p. 28) and following from this, shared vision is clearly visible in all aspects of planning (Senge, Cambron-McCabe, Lucas, Smith, & Kleiner, 2000). The principal has a key role in developing a shared vision but all stakeholders must share this vision if student learning is to improve. The task of leadership is to create “an agreed sense of direction through a vision” (MacNeill, Cavanagh & Silcox, *op cit*, p. 8). Personal interactions (Fullan, 2001) and the developing of quality interpersonal relationships are key factors in this process (Crowther, Hann & Andrews *op cit*; McEwan, 2003, Fink & Resnick, 2001) so
enabling “all those concerned to work together and to be respected for the contributions they make” (Hooley, *op cit*, p. 84). Within this model strong principals create space to enable teachers to collaborate in order to analyse data and solve problems as a team. This builds capacity. Teaching for Effective Learning (Government of South Australia, 2008) provides a model for leadership of learning, which includes designated leaders and all teachers.

### 2.6.1.3 Authentic Leadership

Transformation of the learner into a more fully human individual is the ultimate goal of schooling (Duignan & Bezzina, 2004; Hooley, *op cit*). In order for a learner to achieve focuses on the development of personal meaning, is aware of the relationship between the self and the subject of study, has respect for the integrity of the subject of study, appreciates the implications for the trajectory of a learner’s life transformation, learning must be authentic, which means it and applies a rich understanding of the subject of study in practice. These traits enable transformation of the learner into a more fully human individual and so it is the combination of authentic leadership, which is a way of thinking (Zoller, Normore & Harrison, 2013) and personalised learning (Hargreaves, 2006) that enables the development of a transformed learner. Dare To Lead (2014a) offers a program for Aboriginal leaders to assist them to develop the leadership capabilities to embed the holistic learning of students in personalised learning plans. Hargreaves (*op cit*) says that to enable personalised learning students must “co-construct with others all aspects of education” (p. 10).

MacGilcrist, Myers & Reed (2006) using the model of Authentic Leadership described by Duignan and Bhindi (1997), identify nine interdependent intelligences observable in the *Intelligent School*. They are:

1. ethical: addressing vision and values;
2. spiritual: addressing meaning and transcendence;
3. contextual: demonstrating awareness of the internal, local, national and global spheres;
4. operational: ensuring vision becomes practice;
5. emotional: allowing feelings of all to be owned, expressed and respected;
6. collegial: sharing a sense of purpose; reflective: expecting deep learning;
7. pedagogical: engaging students in challenging learning;
8. systemic: encouraging relational thinking involving patterns and flow;
9. corporate: experiencing constant growth.

Each of these intelligences can be developed over time and improved. To operate in this manner requires ethical and synthetic thinking and the vision of a school as a “human community” (p. 149). The *Intelligent School* is self-organising and adaptive and so is ecological in nature. This school can be described as a learning organisation in that the nine intelligences expand and deepen the understanding of inclusive collaborative structures, effective communication and learning-focused leadership defined as characteristics of such an organisation (Silins, Silja & Mulford 2002).
2.6.1.4 The Adaptive Leadership Model

Zoller, Normore & Harrison (2013) present a model of authentic leadership: the Adaptive Leadership Model (Heifetz, Linsky & Grashow 2009). They combine the understandings of extant literature and identify authentic leadership as effective, ethical, incorporating reflective practice (Duignan and Bhindi, 1997), knowledge-based, informed by values, skilful (Taylor, 1991), hopeful, visionary and creative (Begley, 2001, 2003, 2006, cited in Normore & Issa Lahera, 2012). Zoller et al. (op cit) understand that these attributes avoid “the more traditional dualistic portrayal of management and leadership” (p. 2). Authentic leadership requires influence and thinking that is “both intentional and strategic” (p. 3) and these abilities underpin the model. Adaptive thinking, which is the ability to think both intentionally and strategically is congruent with an ecological model. As well as being adaptive,
leadership in the model is deliberate and so it is possible for the leader to acknowledge that the existing resources of an organisation are either insufficient or inadequate to achieve its goals. Something new is envisaged and through this thinking it is possible to “create agile organisations that can succeed in complex times” (p. 4).

Fundamental to the Adaptive Leadership Model is the ability to “view issues ‘from the balcony’” (p. 3) so enabling a macro view. In order to benefit from this view, it is essential that the leader can clearly articulate the purpose of the organisation and distinguish whether problematic issues require technical or adaptive change. Vision is also essential in dealing with adaptive issues. The leader requires an ability to “see what does not yet exist, imagine that which has not occurred and to energise others so that vision of change benefits all involved” (p. 3). During the change process an adaptive leader creates a sense of urgency and communicates the scope and direction, removes obstacles in the path, generates short term wins and then embeds the changes in the organisational culture in a manner that ensures survival beyond the tenure of the particular leader. The adaptive leader is not deterred by setbacks but sometimes engineers these in order to promote progress.

2.6.1.5 Aboriginal Leadership

Aboriginal languages have no words that are the precise equivalent of ‘leadership’ or ‘leader’ (Myers, 1986). Leadership in an Aboriginal context emanates from values different from that of mainstream Australian society and so operates with different criteria. It is based on traditional values, knowledge, laws, and extended family relations. In an Aboriginal context:

> Leadership is the art of motivating a group of people to act towards achieving a common goal. Leadership is about providing guidance and direction. It doesn’t always have to be done from the front; and it’s not an easy thing to achieve. A leader is someone who has the style, personal qualities, values, skills, experience and knowledge to ‘mould consensus’ and mobilise other people to get things done together. (http://www.reconciliation.org.au/governance/toolkit/4-1-indigenous-leadership)

In ‘moulding consensus’ a great deal of time is spent hearing from all stakeholders. This assists in the primary objective of sharing thoughts and ideas and so maintaining harmonious relationships. Ongoing negotiation is important in this process; this is consensus decision making.

Cultural knowledge and reputation, personal qualities, strong relationships with family and the ability to look after others, the land and its resources as well as an understanding of related systems of knowledge and law are the requirements of a leader. First accountability is to their families and local communities. Leaders must be able to discuss information, ideas and decisions with them and through this skill, retain leadership. Communities and extended families have networks of leaders and so an individual leader’s representation and accountability operates in a complex manner. It is also complex in that it is shared amongst people who have different
responsible for different matters. There are also important age and gender
dimensions and it is hierarchical, based on accumulating valued knowledge and
experience. Responsibility is therefore paramount:

Leadership in an Aboriginal cultural context is not given or measured
by how much media you get or if you earn big money. True Aboriginal
leadership does not come from high-level appointments or board
membership. It doesn’t come from and cannot be given by white
constructs. Leadership is earned; it is given when you have proven you
can deal with responsibility and you understand that responsibility.
(Burney, 2007: (http://www.reconciliation.org.au/governance/toolkit/4-1-indigenous
leadership).

Consequently leadership in an Aboriginal context can be difficult as contemporary
leaders usually operate in the Third Space (Janz & Sumner, 2013) to meet the
requirements of their communities and Federal and State governments.

Integrity, strength and fairness are important qualities of leaders, as a leader
must lead by example and have the strength to make decision that are perhaps
unpopular but fair (Kilgour, 2005). Other qualities and skills identified by Aboriginal
people as being important in their leaders are respect for culture, self-awareness and
confidence, wisdom, clear communication and direction, good mediation and
negotiation skills, enthusiasm and ability to inspire, adaptability and humility and a
sense of humour.

The onerous nature of leadership is articulated in the following statement
made at the Indigenous Governance Awards ceremony in Mt Isa:

Leaders are essentially creatures of habit. They don’t really do
extraordinary things that often. They do ordinary things often and
consistently and persistently ... Good leaders keep turning up, they’re
there, ... at the coalface, they want to take on the challenges, they want
to fight the fight, regardless of how overwhelming the opposition seems,
from both in and outside.
(Dodson, 2007: http://www.reconciliation.org.au/governance/toolkit/4-0-your-
governing-body-and-leadership).

The desirability of succession planning is an integral part of Aboriginal
leadership, evident in communities over many years. Lack of succession planning
can mean the stagnation of progress. Sterritt, (2012) says, speaking in a Canadian First
Nations Peoples context, that when charismatic leaders who have been amazingly
successful, retire or relinquish their leadership, there is a danger that the community
falls apart. Recently in Australia there have been efforts to recognise the potential of
Aboriginal leadership in formal education institutions. The instigation is the desire to
improve student learning outcomes and the resulting organisations encourage and skill
Aboriginal leaders in education, to lead effectively in a culturally appropriate manner.
2.6.1.5.1 Aboriginal Principals Associations

The National Aboriginal Principals Association (NAPA) was formed in 2006. Strategically and operationally it is supported by Dare To Lead but is structurally and functionally separate (Purdie & Wilkinson, 2008). Dare To Lead is part of the Principals Australia Institute (PAI); it is a project supporting school leaders to improve educational outcomes for Aboriginal and Torres Strait Islander students. Professional services offered in 2014 (Dare To Lead, 2014a) include programs focussing on the leadership development of the Principal in isolation, as well as those focussing on people who fulfil a range of leadership roles in schools. Programs also focus on the leader’s ability to work in partnership with communities. Colleagues from the Dare To Lead team are available to work with leaders in their schools. Teacher leadership is the single focus of a workshop advertised for 2015 (Dare To Lead, 2014b). Every program provides explicit links to the Principals Australia Institute L5 Framework. The 5 propositions that form the framework are:

Leadership:
1. Starts from within
2. Is about influencing others
3. Develops a rich learning environment
4. Builds professionalism and management capability
5. Inspires leadership action and aspiration in others.

This Framework was developed by the Australian Principals Association Professional Development Council (APAPDC), a subsidiary of the PAI, which was established in 1993. Through relevant processes the association aims to “build effective, inspirational and sustainable leadership in Australia” (Purdie & Wilkinson, 2008). In its Strategic Plan (2006-2008) the APAPDC under the heading, “Leadership is about influencing others” explicitly aimed to:

Expand its leadership in the promotion of health and wellbeing and Indigenous education.

Through the Dare To Lead project the APAPDC has developed Indigenous foci for each of the 5 propositions of the Leadership Framework (Appendix L1). A number of action areas to guide school leaders support each proposition.

In celebrating the formation of the National Aboriginal Principals Association (NAPA) Susan Matthews, executive officer of the NSW Aboriginal Education Consultative Group said:

"Everything we do as Aboriginal people has a cultural base to it. As principals we work to improve outcomes for all kids in our schools. We all operate within a western framework; we need the opportunity to work within our own contextual framework. We also have to be role models not just for our current peers but for those Indigenous principals we haven't yet met."

In addition to NALPA the National Aboriginal and Torres Strait Islander Principals Association (NATSIPA), incorporated in 2010 is an Australian Indigenous
Principals Association supporting, developing and building capacity to promote quality Indigenous leaders and to positively influence education policy development. As well as this, the Indigenous Education Leadership Institute operates in Queensland. Dr Chris Sarra is the Director and the website states the aims of the ‘Stronger Smarter Leadership Program’, which is to:

*challenge and support school and community leaders in their pursuit of educational excellence for all students by providing learning opportunities to enhance their leadership capacity, challenge their assumptions and contribute to the critical mass of leaders creating positive changes in education.*

### 2.7 Connectedness within a Learning Community


#### 2.7.1 Students and Teachers as a ‘Community of Learners’

Teachers as a community of learners are often called a professional community (Fullan, 1999; Hill & Russell, 1999; Kruse & Louis, 1995; Marsh, 2001; Stoll et al, 2003; DuFour 2014). The professional community is seen as an essential contributor to high student achievement, enhancing teacher collaboration, ensuring social support for student education and valuing authentic assessment (Fullan, 1999; Hill & Russell, 1999; Kruse & Louis, 1995; Hargreaves, 2006; DuFour 2014). The concept of learning community includes students and leads to the delineation of a school as a “learning web' with linkages and relationships to industry and the community for both curriculum enrichment and experiential learning and action research" (Lepani, 1994, p. 3). This is consistent with the ecological model.

Effective professional learning teams allow teachers to collaboratively explore pedagogical approaches, continuously refine these and make the connections between curriculum areas in order to improve student learning outcomes (Palmer, 1998; Marsh, 2001; Murdoch & Hornsby, 1997; Murdoch, 1998, Hamilton, 2005; Gilbert 2012; DuFour, 2014). Connectedness, in a professional learning community, is seen in practice as collaboration and interaction. These are the hallmarks of a fully operational professional community, which fosters diversity while building trust, both provoking anxiety and containing it, creating knowledge and fusing the spiritual, political and intellectual (Palmer, 1998). DuFour (*op cit*) says that effective professional learning is ongoing and job-embedded and results-oriented. Here the concept of ‘teacher as learner’ (Barth, 2000; Fullan, 1999; Hough & Paine, 1992) is paramount as there is only a professional community when teachers understand themselves as learners. This understanding includes the freedom to articulate
problems and be assured that others in the learning community will listen (Hattie, 2013a). It is this professional community that gives teachers and students a sense of belonging, in that they are linked to people, interests and ultimately life (Bernard, 1997) and through it are empowered within their school community. Forming such a community, however, is not always straight-forward.

2.7.1.1 Difficulty in Development of a Professional Learning Community

The main factor, contributing to the disempowerment of teachers and students and preventing the development of a professional community, a community of learners, is the “inertial bureaucracy” described by Fullan (1999, p. 31). It is, according to Fullan, the greatest inhibiting factor in the development of a collaborative learning community and it is in the context of a collaborative learning community that change is successfully implemented and maintained. ‘Inertial bureaucracy’ is also akin to the dominant political power described by Freire (1973). Because the school bureaucracy is multi-faceted (Sun-Keung Pang, 2003) it is difficult to describe holistically and its actions are more often than not fragmented. Relevant here, too is the concept of balkanization (Fullan, 1993, p. 83) where strong loyalties within one group of staff members renders it hostile to other groups within the total staff group. Despite these issues, the development of a professional community is both possible and desirable.

Lodge and Reed (2003) describing an explicit attempt to develop a professional community, comprising student, teachers and the Local Education Authority (LAE) in London, UK, claim that, while research shows that change needs to happen at the classroom level, this will not happen unless a professional learning community is established. As do Kruse and Louis (1995) and Stoll (1999), they identify conditions required in schools to support school-based professional practice: time to meet and talk; physical proximity; interdependent teaching roles; communication structures; teacher empowerment and school autonomy. The fact that the project involves teachers learning from their own and each others’ practice and contexts ensures a richness of learning. This directly addresses the problem of “inertial bureaucracy” as described by Fullan (1999, p. 31). The powerful focus is on teacher as learner, with the explicit focus on the process (Munro, 1999). Teachers, members of the Local Educational Authority and staff of the university combine in the development of a learning community that is successful in that they are connecting and empowering teachers to contribute to the growth and development of their students, themselves and the organisation. Parker J. Palmer (1998) takes this concept further by speaking to teachers as individuals and recognising students as individuals within an ecosystem.
2.7.1.2 ‘Community of Truth’

Johanna Macy (1983) speaks of weaving a web in the context of ecosystems. This concept has been adeptly translated to the educational arena, by Parker J. Palmer (1998). Palmer says, “[g]ood teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subject and their students so that students can learn to weave a world for themselves” (p. 11). Palmer defines ‘connectedness’ as the ability to “join self, subject and students in the fabric of life” and depicts this as going far beyond the realm of teaching technique as teacher, subject and student must be “woven into the fabric of community that learning and living require” (p. 11). Palmer specifically adds the academic subject to form a unity with teacher and students.

Palmer’s understanding of ‘disconnectedness’ as emanating from fear, leads him to delineate two dimensions of this dominant feeling. One is the fear engendered within students, so that those born with love of learning begin to hate school. The other is the fear of the educational institutions’ divisive structures that impact upon the teacher as a person and educator. There are so many fears within the school experience of students that when they are combined with those of the teacher they increase to a degree that education may be paralysed. In questioning why teachers persist in this fearful and therefore disempowering situation, Palmer says they fear “a live encounter with alien “otherness”, whether the other is a student, a colleague, a subject or a self-dissenting voice within” (p. 37). Consequently the line of least resistance is to maintain the status quo as the educational institution, aided and abetted by our western “commitment to thinking in polarities, a thought form that elevates disconnection into an intellectual virtue” (p. 61-62) urges teachers just to ‘be themselves’.

Palmer also comments on the fragmentation of “reality into an endless series of either-ors” (italics in original) (p. 62). His solution is in paradoxical pedagogical design, in which he says, the paradox is a lens through which teaching may be viewed. Palmer understands paradox as the combining of two profound truths, even though each describes the opposite of the other (Table 2.2).
### Paradox in the Classroom (Palmer, 1998, p. 74)

<table>
<thead>
<tr>
<th>A Paradox</th>
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<tbody>
<tr>
<td><strong>Space should:</strong></td>
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<tr>
<td>Be bounded and open; There needs to be space for questions but the discussion needs boundaries to prevent meandering</td>
</tr>
<tr>
<td>Be hospitable and charged; An open space needs to be hospitable so it is not forbidding, however it also needs to be challenging.</td>
</tr>
<tr>
<td>Invite the voice of the individual and the voice of the group;</td>
</tr>
<tr>
<td>Honour the “little” stories of the students and the “big” stories of the disciplines and tradition;</td>
</tr>
<tr>
<td>Support solitude and surround it with the resources of the community;</td>
</tr>
<tr>
<td>Welcome both silence and speech.</td>
</tr>
</tbody>
</table>

Here is a balanced approach, as recognised by the ecological paradigm that appears simple, and yet is one that many teachers find difficult (Palmer, 1998). Palmer says the heart must be engaged here as well as the head, as it is in the re-education of the heart that the ability to hold the tensions of paradox will be achieved. This is because “truth is found not by splitting the world into either-or’s but by embracing it as both–and” (italics in original) (p. 63). While he seems to be addressing personal empowerment as he emphasises individual responsibility to achieve this, Palmer firmly establishes that this re-education of the heart can only happen in community as, “community is the essential form of reality, the matrix of all being” (p. 97). He depicts a learning community as a ‘Community of Truth’ (p. 102), not hierarchical and searching for objective truth, but circular. At the centre of the circle is ‘subject’ not ‘object’ as “a subject is available for relationship, an object is not” (p. 102). Palmer describes the way it looks as “less like General Motors and more like a town meeting, less like a bureaucracy and more like bedlam” (p. 101). In this way he connects the knower and the known in a powerful ecosystem, which will be at once, diverse, ambiguous, creative, honest, humble and free. Palmer’s understanding of connectedness certainly implies that teachers and students have a sense of belonging to their school community.

### 2.8 Empowering Education

#### 2.8.1 Learning in the Middle Years of Schooling

The definition of ‘Middle Years’ varies from years six to ten (Schools Council, National Board of Employment, Education and Training, 1993), through five to nine (MindMatters, 2000), five to eight (Victorian Board of Studies, 1999) and sometimes,
generally, as the years bridging the primary and secondary schooling (Department of Education, Employment and Training in Victoria & the Centre for Applied Educational Research at Melbourne University, 2000).

Beginning with the document ‘In the Middle’ (Schools Council, National Board of Employment, Education and Training, 1993) the last 20 years has produced research that delivers findings asking teachers in the middle years to negotiate a curriculum that is based on people (Cumming, 1996; Department of Education, Employment and Training in Victoria & the Centre for Applied Educational Research at Melbourne University, 2000; Kruse, 2000; Russell, MacKay & Jane, 2001; 2003) and should include the element of fun (Brown, 2002). Effective teaching and learning is essential if students are to achieve their potential. It should be cooperative and be fostered within a reflective community atmosphere (Cumming, 1996; Department of Education, Employment and Training in Victoria & the Centre for Applied Educational Research at Melbourne University, 2000; Kruse, 2000; Russell, MacKay & Jane, 2001; 2003; Schools Council, National Board of Employment, Education and Training, 1993). In this literature intellectual and social development are understood to be equally important. Assessment, if teaching and learning is to be effective, must be within an integrated and inclusive curriculum and be valid and fair (Cahill 2000; Cumming, 1996; Schools Council, National Board of Employment, Education and Training, 1993). Many projects specifically address these issues (e.g. Holdsworth, 2003; Nelson, 2003; Zyngier, 2003).

Respondents to the School’s Council’s discussion paper in 1993 said that in order to achieve effective middle schooling there is a need to “transform traditional approaches that involve students in the ingesting and regurgitating of factual information” (Schools Council, National Board of Employment, Education and Training, 1993, p. 38). The document also highlights the value of approaches to teaching that take into account the lived experience of the learner and his/her environment and states that there must be a concerted effort on the part of systems, professionals, principals, teachers, teacher training institutions and research agencies is advocated to “expedite the development of effective middle schooling” (p.65).

Research also recommends that school structures should be flexible, smaller rather than larger, and student-centred, so as the fundamental goal of middle years, effective teaching and learning, may be achieved (Department of Education, Employment and Training in Victoria & the Centre for Applied Educational Research at Melbourne University, 2000; Hill & Russell, 1999; Russell, MacKay & Jane, 2001; 2003; Schools Council, National Board of Employment, Education and Training, 1993). This, however, should be achieved within a whole school process. The Hill-Crevola Whole School Design for Improvement in Teaching and Learning and Hill’s set of strategic intentions were integral to the design. The Design Figure 2.4 is the conceptual base for developing specific programs. It has nine interdependent elements. These facilitate all sectors of the community working collaboratively towards a set of common beliefs and understandings. Consequently relationships are to the fore in all concepts of effective middle schooling. If schools are to “expedite the development of effective middle schooling” (Schools Council, National Board of Employment, Education and Training, 1993, p.65), by addressing the relational and learning issues highlighted above, the concepts of connectedness and consequently empowerment must be fully explored by the community of learners in each school.
Schools are generally depicted as communities of students, teachers, parents and the wider population in which the school is situated (Cumming, 1996; MindMatters, 2000; Schools Council, National Board of Employment, Education and Training, 1993). Middle years research also demonstrates that students must participate in decision making if they are to have true ownership of their learning and so achieve their potential (Russell, Mackay & Jane, 2001; 2003). In order for this to happen there must be flexibility on the part of the student, teacher, school organisation, system and the wider community (Cumming, 1996; Kruse, 2000; Russell, Mackay & Jane, 2001; 2003). The development of authentic curriculum, curriculum that is relevant to the lives of students (Putnam & Borko, 2000), is then more likely to eventuate. This is certainly an aim of the ideal middle years approach (Kruse, 2000). Flexibility in the classroom applies to teaching and learning activities as well as curriculum content. Effective teaching and learning practices engage students and give them a sense of belonging to a learning community. Reflecting on their learning in a supportive environment leads students to be truly connected and so develop relationships that enable them to learn and wish to continue learning throughout their lives (Fogarty, 1997; 2004). While the Middle Years of Schooling approach was somewhat novel in Australia in the 1990’s nevertheless the understanding of education in the context of empowerment was a strong focus in the 1970’s.

2.8.2 Empowering Pedagogy

Paulo Freire (1972; 1973) understood education as the key to empowerment. Education for Freire is “the practice of liberty as it frees the educator no less than the educatees from the twin thraldom of silence and monologue” (1973, p. viii-ix). Freire also understood that power systems within society reflect the values of that society, where the elite cannot encourage participation as they act spontaneously to maintain the status quo (Freire, 1972; 1973). Ira Shor, who translated Freire’s thought to education in the United States of America, describes empowering education as “a critical-democratic pedagogy for self and social change” (Shor, 1992, p. 15). The personal, cultural and political are immediately understood as three sides of the one triangle. His justification for this understanding is that “human beings do not invent themselves in a vacuum, and society cannot be made unless people create it together” (p. 15). He, following Freire, proposes an agenda of values that enable empowering pedagogy. Participation and problem solving are sections of his pedagogical design that are widely advocated today.

2.8.2.1 Pedagogical Design for Learning

2.8.2.1.1 Participation

Participation, which involves teachers and students in learning that is meaningful and leads to action, is widely advocated, either explicitly or implicitly as an essential component of any educative process both for teachers and students (Bernard, 1991; 1997; Cahill, 2002; Cormack, 1996; Cumming, 1996; Freire, 1973; Fullan, 1999; Groome, 1998; Hill and Russell, 1999; Russell, MacKay & Jane, 2003;
Contemporary approaches that advocate student participation as an essential component of learning concur with Freire’s (1973) articulation that educators are agents of change and participation involves being with the educatees so they are also agents of change. Participation, however, is low in traditional classrooms (Russell, Mackay & Jane, 2001; Shor, 1992). Shor (ibid) is referring explicitly to an American context, while Russell, MacKay and Jane (op cit) are referring to Australian Middle Years classrooms. Shor notes that children commence life as motivated learners, participating in their own learning and having great curiosity. These are reflective of Palmer’s (1998) understanding of student motivation being terminated by attendance at school. Shor also states that students are prepared for non-participation in school and society by experiencing teacher-centred classrooms, dominated by rote drills, short question exams and standardised tests. Shor (op cit) concludes that schools are set up and run by the elite, who do not wish others to participate in the organisation of their society. These sentiments are echoed in Australia with the description of “test-fixated environments” as promoting “an unethical type of learning”(Starratt, 2005, p. 6). The antithesis of this is the deep learning described by Hargreaves (2006). Hargreaves advocates personalised learning, where students are co-constructors of their learning. Hooley (2009) following Pearl and Knight (1999) identifies participation by all in curriculum that involves problem-solving as the essence of a democratic classroom. This echoes the operation of democracy in daily life, which is “a way of life that involves interest, action and experience” (p. 25) and so makes education congruent with and epistemologically relevant for life in a democratic society. Hooley (ibid) extends the notion of the democratic classroom to whole school decision-making, by the inclusion of students, teachers, families and community members in the process and so all actions in the school reflect the democratic nature of society. This approach renders education relevant in the moment and so education becomes a process of living and not a preparation for future living (Dewey, 1897).

2.8.2.1.2 Problem Posing/Solving/Dialogue

Dewey (1916) wrote disparagingly of understanding education as being ‘poured in’ in order to fill students with knowledge and skills. Freire (1972) wrote “[e]ducation is suffering from narration sickness” (p. 57) when expounding his ‘banking’ theory of education. He used a banking metaphor, which draws upon the image of filling something that was empty. Groome (1998) speaks of the “transfer of information from the knowledgeable heads of teachers to the empty heads of learners” (p. 103). This is an ‘acquisition’ form of learning (Sfard, 1998). Freire, like Foucault, sees this form of education as mirroring an oppressive society. In this the elite teachers are the only ones who think, know everything, impart discipline and make choices. The students are merely objects in this process and are consequently deprived of their freedom as the teacher confuses the authority of knowledge with his/her own professional authority. Freire’s description is powerful, concluding that oppression is overwhelming control and by that very fact is necrophilic, and consequently is nourished by love of death, not life (Freire, 1972). Shor (1992) acknowledges that there are some teachers and students who are quite content with an acquisition approach to education as they see the need for and are good at dispensing and acquiring information. This is true when students are encouraged to accept a passive
role in their own education and to be satisfied with the result. Hamilton (2005) notes the high accolades that accompany these results can prove counter-productive in encouraging school communities to value participatory approaches to pedagogy. Instead they laud a banking theory of education.

When problem posing takes over from banking education however, then the teacher/student relationship becomes reciprocal. The classroom is participatory and true dialogue facilitates learning, as the students are “critical co-investigators in dialogue with the teacher” (Shor, op cit, p. 54). Dialogue for Freire, is an encounter between people, involving communication and inter communication and founded on love of the world and people. They are then able to be creative as described by Groome (1998) and so become the empowered individuals that Fullan (1991) says are the only vehicles of improved education. True dialogue develops critical consciousness, which “allows people to make broad connections between individual experience and social issues, between single issues and the larger social system” (Shor, op cit, p. 127). Democratic dialogue and democratic discursive environments (Hooley, 2009) promote reciprocal teacher/student relationships and are essential when establishing a learning environment including Aboriginal students.

2.8.2.1.3 Democratic Dialogue and Reflexive Discursive Environments

A democratic classroom according to Pearl and Knight (1999) is a place of persuasion, negotiation and inclusivity. In this classroom all students are encouraged to succeed through solving personal and social problems. All students participate in classroom decisions, thus mirroring a democratic society. Classroom such as this, exhibit a “reflexive, discursive learning environment” (Hooley, 2009, p. 2) in which students work together respectfully, communicating their learning in order to more deeply understand their world. Hooley (ibid) and Levinson & Hooley, 2013a; 2013b) argue that a democratic society should have a democratic education system for all students. In relation to Indigenous students they articulate the benefits of such an education system, as it has the possibility of leading to a political framework that is inclusive and reconciliatory. This would be a “democratic public system that will play its role in changing the values and practices of a society for the better” (Hooley, 2009, p. 37). Such a scenario develops within a paradigm of communicative action (Habermas, 1984) and is an example of ‘power with’ (Macy, 1983) and Power1 (Sarra, 2011) establishing a productive process for future negotiation among all members of the democracy in question, as they try to understand the views of their compatriots. Habermas (Terry, 1997) depicts knowledge as a phenomenon that is cumulative, moving from analytical/ empirical through hermeneutic historical to critical/ emancipatory. A truly democratic classroom is necessary for the production of this level of knowledge. The understanding of a democratic classroom is discussed further in subsequent sections of this review. It is relevant now to discuss the impact of the physical environment on the development of democratic dialogue and reflexive, discursive environments.
2.8.2.1.4 The Physical Environment

“An enabling learning environment is one where children feel secure, where there is an absence of fear, and which is governed by relationships of equality and equity”
(National Curriculum Framework, India, 2005)

The physical environment of a school impacts upon student learning in many and varied ways. The quotation above expresses the importance of addressing Maslow’s (1943) articulated need, the need to feel safe and also the understanding of ‘cultural safety’ expressed by Williams (1999). It also demonstrates the need for the physical environment to be a place that promotes respectful, productive relationships because “[l]earning takes place within a web of social relationships as teachers and pupils interact both formally and informally” (National Curriculum Framework, India, 2005, p. 78). This is the essence of a learning community. The Framework states that learning spaces need to be colourful with open spaces with purposefully designed and placed furniture for the times when students need to work individually and cooperatively. DeGangi, (2012) extend this understanding to include outdoor furniture, that is purposefully designed and placed to aid student wellbeing. For example, the placement of swings suitably designed to enable conversation, contributes to a calm atmosphere. Space for students to store their belongings adds to the physical comfort of an indoor learning space. Access to nature both within and without the buildings is important in establishing a peaceful learning environment. Adequate natural light and displayed student work and other items of interest assist learning, as students are able to view examples of successful learning (Culp, 2006). All these factors enable quality interaction between students and teachers.

The Victorian Institute of Teaching (2014) is quite explicit in its appraisal of the physical learning environment, stressing the influence of the physical environment on student learning. Open, inviting spaces where students want to go are paramount and often students develop emotional attachments to these. Drawing on respected scholars the paper notes the need for optimum temperature and air quality (Earthman, 2004) and noise level (Higgins et al, 2004). It also notes following McGregor (2004) that the learning spaces reflect the locus of power either in the school or particular classroom. The locus of power determines a student’s willingness to ask questions or participate in dialogue. If power in the learning space reflects an ecological understanding then the resulting environment will “facilitate the self confidence and self-esteem of learners of all ages” (National Curriculum Framework, India, 2005, p. 82) and lead them to participate as “[e]nabling democratic participation is also a means of empowering the weak and the marginalised” (p. 84).

The physical environment also affects the work habits of teachers as they work more effectively and efficiently in an inviting space (Siegel, 1999). This study also found that the arrangement of the working space had a direct effect on the social and professional relationships of teachers. In 2011 the Organisation for Economic Co-operation and Development (OECD) published findings from a study encompassing students and teachers from six European countries. This study focused on the future physical learning environment. The suggestions described a dynamic rather than static teaching space with “flexible furniture solutions, context driven work-methods,
technology integrated into the work space and emphasis on individual and group work” (Kuukorpi, Kaarina & Gonzalez, 2011 p. 5).

The external environment also impacts on student learning. The Queensland Government Department of Education and the Arts (2009) in a document outlining the design requirement for school grounds, states two key objectives that reflect a holistic understanding of learning. The first is “[t]o provide a conducive environment which supports intellectual, physical, artistic and social development of students, thus improving the learning outcomes for all key learning areas” (p. 2) and the second is [t]o provide a landscape setting which creates a ‘Sense of Place’, enhances the natural environment and instils a lifelong regard for nature” (p. 2). The four guiding principles are “Inclusiveness, Context and Character, Natural Environment and Flexibility and Change” (p. 3). The principle of Inclusiveness recognises that the school grounds are for all and therefore the design should reflect the cultures of all members of the school community so all feel comfortable there. There should also be access for all, “regardless of any disability” (p. 4) with the inclusion of seating and meeting spaces. The entire space must be safe and secure. Communication and participation for large and small groups is part of the plan, as is providing “suitable spaces for self expression and observation” (p. 7). High quality landscape settings are part of the design. These are to aid active play, cognitive and psycho-social development and the development of motor skills. Spaces for formal sport activities and performances are included, as well as those for controlled risk taking and quiet play and contemplation. Students are encouraged to take part in the design of the grounds and express the school’s image in the grounds. Biodiversity is encouraged in the choice of plants and the retention of natural ecosystems is encouraged. The plants should provide shade and reduce the amount of sealed area. This plan supports the development of an enabling holistic learning environment by extending the classroom to include the whole school property as a vibrant learning environment.

**2.9 Wellbeing Programs**

“Students are better prepared for learning when they are healthy, safe and happy” (Department of Education, Victoria, 1998, p. 4). This statement underpins the Framework for Student Support Services in Victorian Government Schools and features prominently at the opening of the Teacher Resource (Johnston, 1999). Drawing on relevant scholarship the document promotes a holistic approach to schooling acknowledging, “Schools do not only teach subject matter or develop instrumental skills. They are necessarily involved in shaping young people (and they) deliberately provide opportunities for young people to reflect upon and shape themselves in intrapersonal and interpersonal ways” (Ainley, J., Batten, M., Collins, C. & Withers, 1998). It is this document that initiated the wide use of the four interrelated levels of activity in education: Primary Prevention, Early Intervention, Intervention and Postvention, also called Return to Wellbeing in some processes. At the centre of the model supplied by the framework is the resilient student. These levels overlap and so “span the range of provision of care from the support needed for all children and young people to the support needed in crisis situations” (Johnston *ibid* p. 7). Primary Prevention concerns building belonging and promoting wellbeing,
Early Intervention strengthens coping and reduces risk, Intervention accesses support and provides treatment, while Postvention manages the trauma and limits impact.

Primary Prevention involves strategies “designed to enhance the social and emotional health of all students” (Johnston *ibid* p. 13). The framework and consequent curriculum development acknowledges that learning occurs in the social and emotional spheres and enables the development of learning experiences to teach students social, problem-solving and coping skills. They need ongoing support in developing these skills (Gilbert, 2012). The Victorian Essential Learning Standards (2005) incorporated these in the State curriculum documents in the domains of Personal Learning and Interpersonal Learning. The Australian Curriculum (ACARA, 2013) has followed suit by incorporating the Personal and Social Capability as one of the seven General Capabilities to be explicitly taught and assessed across all Learning Areas. The Victorian Essential Learning Standards, AusVELS and the Australian Curriculum all understand physical health is essential for lifelong, healthy, active living and is therefore primary prevention. This understanding is articulated in the Shape of the Australian Curriculum Health (ACARA, 2012) as it states, ‘[t]he knowledge, understanding and skills taught through Health and Physical Education provide a foundation for students to enhance their own and others’ health and wellbeing in ever-changing contexts.” (p. 2).

Primary prevention strategies for mental health are evident in ‘MindMatters’ (2005). This resource, a Commonwealth initiative, was first introduced in the year 2000. The National Health Promoting Schools Framework (2000-2003) in which Curriculum, Ethos and Environment and Partnerships and Services are the three interrelated elements, informed subsequent revisions of ‘MindMatters’. This national framework also includes ‘teacher wellbeing’ as a focus. In 2014, further revision of ‘MindMatters’ is taking place.

The Victorian framework also identifies spiritual and communal belonging through family, peers, community and culture as a protective factor and an element of Primary Prevention. Including family members in discussions about students, providing mentors so all students have connection with at least one caring adult and forming partnerships between the school and community are all examples of effective practice. While these elements are essential it is also necessary to have an engaging, appropriate and inclusive curriculum, as the curriculum is the core business of a school. ‘MindMatters’ provides teachers with an extensive list of necessary actions that contribute to a classroom climate that contributes to mental health and wellbeing (p. 14-15). In addition there are specific programs that are valuable as part of any school’s primary prevention strategy.

In 1999 CASA House, Centre Against Sexual Assault developed a ‘Sexual Assault Prevention Program’ for Secondary Schools. Imbesi (2008) evaluated the program and found that it was essential that young people feel “comfortable, open and conversant enough (with an adult) to start discussing the deeper issues of gender and power” (76). The report also emphasises that safety and respect are essential ingredients in any situation that seeks to empower young people to engage in meaningful fruitful discussion concerning sexual assault. Consequently the classroom climate established by the teacher is equally as important as the materials provided by a program. Another program ‘The Shark’s Cage’, as its name suggests, enables
students to work metaphorically and so develop “accessible, concrete and hopeful strategies for change in women’s lives” (Benstead, 2011, p. 70). During the program the participants extend the metaphor of the shark’s cage and identify boundaries and avenues of protection. Through this they develop the ability to maintain these in real life situations they regard as unsafe.

For purposes of Intervention additional partnerships may be needed, including parents, teachers, health and social service providers, specific therapeutic services and school support professionals. “Community teams of caring adults can also include ‘elders, business representatives, university students and others” (Johnston *op cit* p. 43). This level requires staff professional learning. MindMatters (2005) researched teachers and identified factors that prevent them from adequately addressing mental health issues in their schools. These include fear, inability to respond appropriately and lack of information. The resource also provides information about appropriate critical incident responses. The *Suicide Postvention Toolkit* (Commonwealth Department of health and Aging, 2012) provides a process for schools to follow in the case of a suicide in the school community.

Figure 3.3 *The Resilient Student: The Four Ventions* (Framework for Student Support Services in Victorian Government schools: Teacher Resource, 1999)

The following programs are relevant as they are integral to Wellbeing at Worawa Aboriginal College.
2.9.1 Restorative Justice Practice

‘Restorative Justice Practice’ has evolved from justice in ancient times (Braithwaite, 2002) to an approach to discipline in contemporary schools (Hansen, 2005). This approach is relatively new to schools as more traditional methods of behaviour management are executed by adults in schools, through a system of rewards and punishment (Hansen ibid). ‘Restorative Justice Practice’ is valued as it is a non-punitive method of behaviour management involving the victim and the offender in an attempt to have them understand each other’s position and feelings and to co-determine methods of making amends, leading to reconciliation (Cameron & Thorsburn, 1999; Hansen, 2005; Schiff, 2013). It involves “voluntariness, truth-telling and a face-to-face encounter” (Latimer, Dowden & Muise, 2005, p. 128) and holds the offender accountable to the people or groups they have harmed, as well as promoting social and emotional growth (Schiff op cit). The process occurs in a meeting facilitated by a trained mediator, in which the offensive incident is discussed from both people’s points of view, giving each a chance to explain their actions. At times other people including family, social workers and community members are asked to be part of a conferencing process (Hansen op cit).

Strategies employed in ‘Restorative Justice Practice’ are varied and include circles where as the name suggests the people involved sit in a circle and explain their positions. Working in circles may be used with people extraneous to the school or in a classroom situation. This allows all to listen to the unfolding of the incident according to each person involved. Circles have also been used to accomplish other tasks unrelated to discipline ( Claassen-Wilson, 2000; Rappoport, 2005). The ultimate desire is to modify the culture of the school according to the values expressed by the school population (Blood & Thorsborne, 2005). This takes time and commitment and teachers who build this into classroom practice focus on relationship and respect rather than transgression of rules ( Claassen & Claassen, 2004; Arnott, 2007; Schiff, 2013). Teachers can also incorporate restorative justice perspectives into their regular classes, in contexts other than student conflict, by asking class members to develop restorative conversations between two opposing characters in literature or history (Compton, Conrad & Murray, 2001). It is possible to have a whole school approach that brings the principles of ‘Restorative Justice Practice’ to all interactions in school life (Bargen, 2003).

Restorative justice practices are compared with zero tolerance practices which “have likewise resulted in the systematic exclusion of poorly performing and “behaviorally challenged” students from schools” (Schiff, 2013, p. 3) and found more effective as they “provide dignity to youth who are too often relegated to passive recipients of adult-made policies” (Schiff ibid p. 3). Schiff understands the dignity of a student is violated by a dismissal from a classroom, the delivery of which is often sudden and swift with no opportunity for any discussion, even at a later time. She says this zero tolerance approach is responsible for “the school to prison pipeline” (p.4) and that in the USA zero tolerance has had its most destructive effect in the “Black community” (p. 5). She argues that the use of metal detectors to control student behaviour only provides short-term solutions. Research from Canada, the United States and Australia demonstrates that restorative justice effectively reduces recidivism rates (Arnott, 2007; Morrison & Martinez, 2001; Porter, 2007; Riestenberg, 2003; White, 1998). There is also considerable evidence that restorative
justice practices can result in reduced suspension and expulsion, decreased disciplinary referrals and improved academic achievement (Karp & Breslin, 2001; Lewis, 2009).

2.9.2 ‘Deadly Sista Girlz’

The ‘Deadly Sista Girlz’ Program developed by the Wirrpanda Foundation is built on the cultural factor of connectedness and so addresses the relationships that provide the foundation and the fabric of Aboriginal life (Sumner, 2013). Western culture, while increasingly acknowledging the interdependence of individuals, often identifies and promotes actions that assume independence. In Aboriginal culture a person is always perceived as “a self-in-relationship” (ibid p. 25). The program also acknowledges the fact that achieving positive change in an Aboriginal community proceeds at a much slower pace and so requires long-term commitment. The philosophical base of the program is therefore very strong as the complicated and extremely broad kinship relationships, which are the basis of a person’s identity combined with the spiritual dimension of Aboriginal life, are developed in the components delivered to Aboriginal girls in schools. The program addresses the problem of providing a range of opportunities for Aboriginal girls as research demonstrates there is no one approach that attracts girls in the same way as sport attracts boys (Doyle & Hill, 2012). Research also highlights the value of targeted programs for Aboriginal women, as it is women who are instrumental in bringing about lasting social change in their communities (WHO, 2014) and are “a valuable untapped resource” (Arabena, 2012, p. 18).

Thriving in the Third Space is the focus of the ‘Deadly Sista Girlz Program’. The program manual states that “in the 21st century there is an opportunity for Aboriginal/ Torres Strait Australians to create a Third Space of personal, social, cultural, intellectual and organisational identity rather than conform to the colonialist norms of the past” (Janz & Sumner, 2013, p.1). The ability “to contribute to significant social decisions that directly impact upon their lives” (ibid p.1) is the stated aim of all programmes constructed by the Wirrpanda Foundation. The ‘Deadly Sista Girlz Program’ assists girls to do this effectively, and so become proud Aboriginal/Torres Strait Island women with good spirit, thriving in the third space. The ‘Third Space’ is created as a hybrid of Indigenous culture and non – Indigenous culture. The programme represents this by an infinity diagram.

The delivery of the ‘Deadly Sista Girlz Program’ in schools is through an outcomes based approach. The program has three sets of interrelated outcomes. These are concerned with the girls’ own development, their ability to protect the freedom and welfare of others and their ability to make a personal contribution. The sets of outcomes are not totally discrete, as girls may still be achieving at the first level in some, while working on others in other levels. The outcomes are clustered in Phases entitled: Connecting, Developing and Contributing. Mentors employed by the Wirrpanda Foundation deliver the program. These young Aboriginal women are approximately twenty to twenty-five years of age and so are able to be described as “big sisters”. The Connecting Phase enables the participants to form positive relationships in a safe environment. The Developing Phase enables the participants to become role models and for this purpose, the yarning circle is introduced as a safe
place of learning, where the girls learn to deal with “a wide range of personal issues and pressures associated with growth” (ibid p.10). Yarning is “an informal conversation that is culturally friendly and recognised by Aboriginal people as meaning to talk about something, someone or provide or receive information” (Bessarab, 2102, slide 5). An additional focus of this phase is to build the ability to “operate in a cooperative and non-adversarial way as a cohesive social group/community” (Janz & Sumner, op cit p.10). The aim of the third phase, Contributing, is to enable the girls to share their identity and culture in the wider community context of the Third Space. The program is usually delivered for three hours weekly, over the school year.

2.9.3 ‘Tree of Life’

The ‘Tree of Life’ is a program based on narrative therapy, offered through the Dulwich Centre, Adelaide (http://www.dulwichcentre.com.au/); it is also available through Berry St, Victoria. The program enables participants to become connected with the elements of their narrative through their own thick description (Morgan, 2000). Narrative therapy provides a respectful approach to counselling and allows people to become experts in their own context rather than depend on the thin description of their lives supplied by other people (ibid).

Initially working in Africa, the Dulwich Centre has developed a program in conjunction with Aboriginal and Torres Strait Islander peoples as they wish to raise the hopes of young people who have experienced trauma and inspire them to connect with and become proud of their narrative. The program encourages participants to draw their own ‘tree of life’ from the ‘roots’ through the ‘branches’. The ‘roots’ depict the origins of a person, while the ‘branches’ include their knowledge, skills, people who are special in their lives, hopes and dreams. The metaphor is extended to a ‘forest’ as all participants bring their trees together. They are then able to discuss the benefits received from and the problems faced by the ‘forest’ and through this become stronger people as they come to realise they are not alone but part of a wider narrative. Narrative therapy is especially beneficial as it separates problems from people and assists them to change their lives through changing their relationship with their problems. They are no longer subject to the thin conclusions that are often given to people facing trauma (ibid). Through the Tree of Life young people become more connected to their origins and their community and so build their problem-solving capabilities and self-esteem as they encounter the thick, rich description of their lives and the lives of others they meet in the program.

2.9.4 ‘Paying Attention to Self’ (PATS)

PATS, is a mental health promotion and illness prevention program, for young people aged 13 – 18 years, whose parent is affected by a mental illness. The program recognises that mental illness affects the parent who is ill, and also raises many issues for their children, particularly during adolescence. The program is structured according to the Peer Support model, developed in 1997 by the Centre for Adolescent Health at the Royal Children’s Hospital, Melbourne. This model enables participants to share their experiences, supported by other young people in a similar situation. As
young people living with a parent who has a mental illness are at risk of developing such an illness themselves, PATS aims to reduce this risk by increasing their knowledge of the illness and to improve their coping and help-seeking strategies. Improvement of their sense of connection to their peers, family and their community is necessary for this to be achieved. The other aims of peer support include: enhancing adolescent health and wellbeing, empowering young people to identify, create and make use of opportunities and encouraging young people to make positive changes where possible.

Young people living with a parent, who has a mental illness, also carry the stress of constantly caring for this parent, while at the same time fearing they themselves will soon be affected by mental illness. In addition they have to cope with the stigma of mental illness, and try to manage the ordinary stresses of adolescence. The Program Guide (p. 6) includes recommended supports for young carers, including:

- recognition, understanding and respect, age appropriate information on illness and disability and about their rights as young people and carers,
- informal and formal support, most critically a person to talk to who they can trust and access to appropriate, flexible and affordable services, such as respite that meets their specific needs.

Topics covered in the group include, understanding their parent’s illness, improving their relationship with their parent, communicating and developing problem solving skills, dealing with the stigma associated with mental illness, developing strategies to cope with their parent's condition and staying mentally healthy themselves. Adults are encouraged to organise social events for the group and to involve them in the leadership training component of the program.

### 2.10 Definitions of Culture, Empowerment and Connectedness

After reviewing the literature, for the purposes of this project, the definitions of the empowerment and connectedness are as follows:

**Culture:** the characteristics of Aboriginal people defined by their connection to people and place, manifested in a contemporary context.

**Connectedness:** a sense of belonging to a learning community.

**Empowerment:** the ability to act with confidence in order to direct one’s own life within the context of a learning community.
3. Learning

3.1 Connectedness of Learning

3.1.1 Dualistic and Holistic Thinking in our Educative Process

To encourage the full human development of each person it is necessary to “engage the whole person as an active participant” (Groome, 1998, p. 103). Our western patterns of thinking, inherited from Greek Aristotelian philosophy, which understood the intellect as in no way connected to the body, means that we have the strong tendency to value rationality above other (sensual) ways of knowing (Capra, 2003; Tarnas, 1996) and the external above the internal (Wilber, 1996). This thinking is consistent with a mechanistic world-view and means that knowledge, the learner and the world are understood as opposing forces (Davis, Sumara & Luce-Kapler 2000). Thinking in dualities also means we categorise according to perceived opposites and as discussed in a previous section, find paradoxical thinking difficult, as we cannot accept perceived opposites as a unity. Even in the articulation of the understanding of the learning theory of constructivism, which is built on the premise that all of our understandings are situated in experience, action, and interaction, we identify individual/social and relativist/objectivist (Begg, 2000). Dualistic thinking so often translates to every domain of our existence, as we find ourselves repeatedly making choices on an either/or basis (Parker, 1998), thus ignoring the non linear nature of the operations as understood in complexity theory (Stacey, 1996; Smith 2013) and in an Aboriginal worldview (Andrews, 2006; Hooley, 2009; Dudgeon et al, 2010). Often the elements of choice are not mutually exclusive and can and do co-exist harmoniously, reaping the benefits of this modus operandi (Hamilton, 2005). In many ways schools are endeavouring to engage the whole person and to understand the good of the individual and the good of the school community as intertwined rather than mutually exclusive. They are, however, hampered by dualistic thinking, either chosen or imposed. This thinking thwarts the promotion of holistic approaches to education as it assumes the relationship between teaching and learning is direct, causal and linear (Petrosky & Delandshere, 2004). This thinking is described as the most powerful influence in education in the twentieth century (Darling-Hammond (1997).

3.1.2 Holistic Education

Holistic education, rather than being a method or technique is a paradigm in that its basic assumptions and principles can be applied in a wide range of pedagogical practices (Miller, 1997). The goal of holistic education is full human development (De Souza, 2003; Forbes, 2003; Miller, J. 2004 & 2007; Neves, 2009; Mahmoudi, Jafari, Nasrabadi & Liaghatdar, 2012). ‘Wholeness’, ‘interconnectedness’ and ‘dynamic’ are words used to describe holistic education (Neves, op cit). This obviates any reductionist approach, as all aspects of human development are the focus of learning. Surrounding context and environment are included in the vision for holistic education (Miller, J., 2005); Miller also understands holistic education to be a critical emancipatory approach.

Personal progression is fundamental in a holistic model (Hare, 2010) and so student learning is central. Holistic education however “moves the concept of a child-
centred educational approach to a much more radical programme of education” (ibid p. 3). Hare writing from the perspective of the International Baccalaureate, refers to intellectual, emotional, social, physical, creative or intuitive, aesthetic and spiritual potentials, all to be developed in a holistic model. Relationships and the experience of life beyond the classroom are also essential elements for him. This enables critical examination of cultural, moral and political contexts of learners’ lives. Holistic education empowers students to “think differently, to think creatively and reflect on their own values” (p. 4). Dialogue between teacher and learner is relevant, but this dialogue must be truly democratic (Hooley, 2009). Groome (1998) contends that dialogue begins with one’s self, and “At bedrock it is a conversation with our own biographies, with our own stories and visions” (p. 189). Groome (ibid) says the teacher is also a learner in this model as the relationship between people and the focus of learning includes both the learner and teacher in dynamic interaction. Parents also play a supportive role in holistic education (Hare op cit).

As life experience and not academic excellence alone is the concern of holistic education (Hare, op cit), the curriculum in such a setting goes far beyond the acquisition of basic skills and is developed within a broad vision (Mahmoudi et al., 2011). This presents a challenge for education systems including the mainstream education systems in Australia that have “an obsessive focus on standards and testing” and so reflect “a materialist and consumerist culture” (Mahmoudi et al. ibid p. 179). In this view the purpose of education is understood as a training place for participation in paid work rather than as a preparation for life in all its dimensions. Centrality of student learning is promoted as fundamental when focussing on the ability to complete tests successfully but only with a very narrow expectation of learning. This approach to education can be described as knowledge-based (Hare, op cit). The understanding of knowledge expressed through the Four Pillars of Learning (Zhou Nan-Zhao, 2006) is far more encompassing.

3.1.2.1 ‘The Four Pillars of Education’

The ‘Four Pillars of Education’: to Know, to Do, to Live Together and to Be (Nan-Zhao, 2006) enable an approach to holistic learning. The explanation of the words, ‘know’ and ‘do’ ensure a broad approach, as ‘know’ rather than referring to knowledge of facts or comprehension, refers to the lifelong process of understanding the world we live in. ‘Do’ refers to developing skills for the workforce that are more human than technological; interpersonal skills are paramount here. ‘Live together’, the third pillar involves the development of an appreciation of and empathy for global diversity and the interdependence of all. This includes respect and consequent care for all elements of the earth, cultures and value systems and the ability to share and solve common problems. The International Commission on Education for the Twenty-first Century, in its report to UNESCO (Delors et al., 1996) in proposing the Four Pillars, emphasised this pillar as the foundation of education, reasoning that:

learning to live together, by developing an understanding of others and their history, traditions and spiritual values and, on this basis, creating a new spirit which, guided by recognition of our growing interdependence and a common analysis of the risks and challenges of the future, would induce people to implement common projects or to manage the inevitable
conflicts in an intelligent and peaceful way.

The fourth pillar to ‘be’ is to learn to be fully human. Nan-Zhao (op cit) notes that a curriculum to achieve this must enable the development of the imagination and creativity, shared human values, a learner’s potential, as well as “memory, reasoning, aesthetic sense, physical capacity and communication/social skills…… critical thinking and ……independent judgment…. personal commitment and responsibility” (p. 3). Curriculum driven by these four pillars avoids the temptation to be reductionist in nature, processes and outcomes.

3.1.2.2 Relevance of Indigenous Knowledges

Pastor Sir Douglas Nicholls (Opening of Worawa Aboriginal College, 1983) spoke of the need for Aboriginal students to be sustained and advanced in both ancient and contemporary cultures. He said:

Aboriginal children must be educated in the way of our people. They must learn their history, about their great ancestors, the language and the law. It’s time for them to know and understand themselves. They must also be educated in the ways of the society in which they live, in the very best of what it has to offer, so they can truly be part, not only of Australia’s past, but also its present and future.

These aspirations were translated into a model of schooling in 1983 by Hyllus Maris, Aboriginal visionary and the founder of Worawa Aboriginal College, when she, at the opening of Worawa Aboriginal College in 1983:

The Worawa curriculum should be based on the best elements of both traditional Aboriginal and current Australian education, aiming to produce an Aboriginal person versed in his/her traditions and proud of his/her identity, who has the tools and necessary qualifications to contribute effectively to the Australian community.

Hooley (2009) when addressing the complexity of this task, says that “[i]t is doubtful whether there is a single model of schooling that can be defined as having successfully achieved the complex learning and cultural outcomes desired by Indigenous communities throughout Australia” (p. 81).

Holistic education has always been a hallmark of Indigenous culture as the Indigenous person sees the earth and the universe as infused with meaning (Mahmoudi et al., 2012) and integral to the meaning of their lives as an interconnected whole. Links are increasingly being made between holistic education and ecology (Berry, 1991; Miller, J. 2004; Mahmoudi et al., 2012) resulting in contemporary educational theory and scholarship more closely reflecting an ecological model. Therefore it is valuable to recognise and understand Indigenous epistemology, as this “encourages Indigenous people and professionals to make use of aspects of each other’s practice in the interest of evolving new and more appropriate practice in changing times” Nakata & Langton (2005, p. 3). Nakata and Langton
stress dialogue and conversation is essential in attaining this as “the two traditions move forward together in a somewhat problematic tension” (p. 4).

Knowledge in the Indigenous context is “very much related to the land, water and animals that frequent where a community lives” (Hooley, 2009, p. 59). Indigenous knowledge has been built over time from an intimate understanding and sustainable use of these natural resources (Andrews, 2006). Hooley (op cit) notes that Indigenous knowledge also has the bases of community, culture and spirituality and to obviate these from the curriculum is to render it irrelevant. This knowledge is accumulated over many years in language, narratives, social organisation, values, beliefs and cultural laws and customs (Andrews, op cit) and it is through these that people access appropriate knowledge through song, story, dance and art. Through these media Indigenous people learn to value relationship, respect the land and accept the accompanying inherent responsibility. New information is always being developed and absorbed into cultural knowledge so Indigenous knowledge is not static (Andrews op cit). Learning in a holistic Aboriginal context is a complex, reciprocal, interactive process. The learning theory that best supports student learning as a complex, reciprocal and interactive process, is enactivism.

3.2 Enactivism: A Biological Theory of Cognition

Enactivism is a theory of cognition emanating from an ecological paradigm. It is grounded in an analysis of living systems and cognition (Whittaker, 1995) and emanates from a worldview as described by Macy (1983). It stems from the premise that “cognition is a biological phenomenon and can only be understood as such” (Maturana & Varela, 1980, p. 7). Maturana and Varela describe knowing as “effective action, that is, operating effectively in the domain of existence of living beings” (Maturana & Varela, 1992, p. 29). They maintain, “cognition is effective action, an action that will enable a living being to continue its existence in a definite environment as it brings forth its world” (p. 29-30). Cognition is not “a representation of the world “out there,” but rather an ongoing bringing forth of a world through the process of living itself” (p. 11). Knowledge, therefore, is effective behaviour in a given context, where the context is understood to be cultural in nature. Needless to say, such a conception of cognition and knowledge is at variance with the ‘normal’ understanding of these terms in schools.

Self-organisation or autopoietic theory, develops this understanding in the context of a system in which an organism engages with its environment (Whitaker, 1995). The identity of an organism is developed within the system and both collective and personal identity is enhanced (Davis, Sumara & Luce-Kapler, 2000). Smith (2013) speaks of human behaviour in the context of the discovery of high levels of organisation within chaotic systems by Prigogine & Stenners, (1984). She relates their term ‘edge of chaos’ to human social interactions, which are non-linear by nature. Smith maintains that “[b]y deliberately creating an uncomfortable ‘edge’ with others we have the potential to spark creativity in others” (p. 7). Systems that continually recreate themselves are defined as autopoietic, which involves acting to adjust to local conditions (Reid, 1998). This implies the interrelatedness of components of any system. Cognition is therefore understood by Maturana and Varela (1980), as inter –
activity because “living systems are cognitive systems and living as a process is a process of cognition” (p. 13). The world we bring forth is done so in coexistence with others as “we are continually immersed in this network of interactions. Effective action leads to effective action: it is the cognitive circle that characterizes our becoming” (Maturana & Varela, 1992, p 241). Effective action, or cognition is fundamental to existence as “we only have the world we bring forth with others, and only love helps us bring it forth” (p. 248). If these notions are taken seriously then clearly a new conception of what happens in school classrooms will emerge.

3.2.1 Enactivism: An Educational Theory

Enactivism is an emerging educational theory. Davis and Sumara (1997) developed the theory, reacting negatively to “the limitations of a mechanically based model of a complex human mind” (p.108) and to the consequent understanding of knowledge as something external that must be acquired. Learning occurs in context in all domains of existence and in an enactivist understanding, both the identity of the learner and the nature of the context change as the learning occurs, because “[e]verything is inextricably entwined” (p. 111). In enactivist terms “cognition is understood as embodied” (Davis, Sumara & Luce-Kapler, 2000, p. 66) as learning is holistic. Learning for Davis, Sumara & Luce-Kapler is “participation in the world, a co-evolution of knower and known that transforms both” (p. 64).

Begg (2000) understands enactivism as “a recent development from constructivism” (p. 51). Constructivism is generally understood in educational literature as the engagement of learners in a process of meaning and knowledge construction rather the passive reception of information (Zygner, 2003). A constructivist classroom is student–centred (Applebee, 1993). Bruning, Schraw, and Ronning (1999) define ‘constructivism’ as a psychological learning theory, which "generally emphasises the learner's contribution to meaning and learning through both individual and social activity… In the constructivist view, learners arrive at meaning by selecting information and constructing what they know." (p. 215).

Social Constructivists for example Vygotsky (1975) embrace a distributed view of knowledge and understand it as evolving from experience, action, and interaction. The interpretation of the individual and the influence of his/her environment collaborate to construct meaning. As a result truth is not objective and absolute, but subjective and relative according to cultural beliefs and tools of the community of the learner. Mental interactions construct meaning and allow the learner to be apart of this. Human cognition is essentially social and situated, in that is occurs in context. The constructivist understanding of the fabric of relations in which one individual is fundamentally entwined with all others in a community, acquires a further dimension with enactivism. Enactivism understands learning as a complex emergent process, taking place within a learning system that is dynamic and robust in adapting to changing circumstances (Begg, 2000). The advantage of enactivism over constructivism, according to Begg, is twofold. Enactivism emphasises knowing rather than knowledge and changes the emphasis from the identifiable entities of individual and society to that of a system. Enactivism develops the concept of the complexity of learning beyond the social to the ecosystem, where the entire system is affected by the cognitive development of each individual. Cognition too, is broadened in its
definition, to include, not only rational thinking but all forms of learning, both conscious and unconscious (Caine & Caine, 1991) and formulated and unformulated (Begg, op cit). This complexity has implications for teachers as learner growth must be the basis from which to operate since learning refers to transformations that expand the learner’s potential range of actions, which in turn affects the entire web of being. The teacher is co-learner and facilitator as collective action is not for individual sense making, but as a location for shared meanings and understandings (Davis & Sumara, 1997). Enactivism is a theory of learning, enabling educators to clearly articulate learning as it occurs within an ecosystem acknowledging that “[e]very moment of life is a learning event, a creative participation in the complex choreography of existence” (Davis & Sumara, 2000, p.178). In her definition of learning, Hamilton (2005), includes an element of constructivism, in what is integrally an enactivist definition, following Begg (op cit). She says:

Learning is a complex co-emergent process of holistic
development enabled through the construction of meaning,
taking place within a community that is dynamic and robust
in adapting to changing circumstances.

An exploration of enactivism would enable a re-thinking of the development of learning experiences that allows educators to develop practices that are theoretically consistent, and acknowledge learning as a complex web of interaction, where knowledge is understood as “contingent, contextual and evolving; never absolute, universal or fixed” (Davis & Sumara, op cit, p. 78). Freire (1973) described the antipathy of empowering learning as a monologue. Davis and Sumara (1997) use the concept of conversation, when describing an enactivist theory of cognition. Davis and Sumara articulate four characteristics of conversational learning: The conversation:

1. leads the participants rather than they lead it
2. unfolds within the reciprocal, co-determined actions of the people involved
3. is a process of opening ourselves to others, at the same time as opening the possibility of affecting our understandings of the world
4. facilitates a movement towards consensus among persons whose thinking/acting can no longer be considered in strictly subjective terms

(p. 110).

A democratic classroom must be conversational in the manner described by Sumara. Dewey (1966, p. 87) quoted in Hooley (2009) says democracy “is primarily a mode of associated living, of conjoint communicated experience” If democracy is this, then it follows logically that a democratic classroom must be inclusive of all participants in a conversation about learning in a reciprocal, co-determined process. Hooley (ibid) relates the concept of a democratic classroom to Clendinnen’s (2008) hope that Australian education because of the arrival of so many migrants from many different cultures, will become more and more inclusive. She hopes that Aboriginal learners will also be included, thus allowing the wider community to learn and value Aboriginal knowledge.
3.2.1.1 Competing Theories and Definitions of Learning

Competing theories of learning often co-exist within the schools (Hamilton, 2005). Hamilton argues that cognitive dissonance or powerful influences inside or outside the school may lead to actions inconsistent with espoused philosophy. Teacher understanding of learning is often implicitly constructivist or even enactivist, but they use behaviourist approaches, not because they are appropriate for the particular learning situation but because they either, have them imposed upon them or understand them to be executed more quickly and so to be more ‘efficient’. This situation reflects the conflict between behaviourist and constructivist approaches described by Begg (2002) and the dualistic thinking that permeates our society (Palmer, 1998). Relevant too is the struggle to establish democratic classrooms, as these take time and a commitment to pedagogy, not readily welcomed by many teachers.

Teachers also hear competing definitions of learning. In Western societies definitions of learning are usually limited to rational thinking and involve an increase in knowledge, memorisation, acquisition of facts, practical procedures, abstraction of meaning and interpretive processes (Purdie & Hattie, 2002). The study undertaken by Purdie and Hattie (ibid) added personal change, a process not bound by time or place and the development of social competence to the above categories. This was in response to the increased understanding that the western definition of learning lacked global relevance. These important categories go unheeded in the recent quest for improvement in student learning outcomes in relation to test results. The dominant definition of learning heard by teachers across Australia is that learning is “the process of developing sufficient surface knowledge to then move to deep or conceptual understanding” (Hattie, 2013b, p. 26) or “the continuous process of assessing one’s own mastery of content and skills, and discerning and pursuing next steps to move forward toward a goal” (Brookhart, 2010, p. 1). This is problematic as these definitions focus on intellectual learning only and so teachers are insufficiently aware of learning as personal change, a process not bound by time or place and the development of social competence. Perhaps the anomalies inherent in competing theories and definitions of learning are best addressed by listening to student voices as they are often the best equipped to discuss their learning needs. Listening to parent voices is also relevant for student learning.

3.3 Enabling Learning

3.3.1 Listening to Student Voice

Listening to the voices of the members of school communities in conversations is paramount in any educational research project. School communities have many voices, both harmonious and competing. It has been well recognised that a successful school allows all teachers’ voices to be heeded (Gilbert, 2012; Evans & Songer-Hudgell, 2003; Fullan 1993; 1999; Lodge & Reed, 2003; Stoll, 1999;). Student or pupil voice is linked explicitly to school improvement (Lodge & Reed, 2003; MacBeath, 2004; Mitra & Frick, 2004; Ruddock, 2004; Trafford, 2004;) and to the development of curriculum at state level in Australia (Keighley-James, 2002). When
student voice is really heeded, students feel respected, understand their views make an impact, have greater control over their learning in that they are able to articulate their learning and devise methods of improvement and generally feel more positive about school. Teachers too have an enhanced opinion of and understanding of student capabilities and are more likely to change practice in accord with their increased understanding of their students. Hence they exhibit a renewed zest for teaching (Ruddock, 2004).

Unfortunately many schools understand listening to student voice as yet another area to be addressed in an already over crowded curriculum and timetable (MacBeath, 2004; Ruddock, 2004). When this is the case, listening to student voice, more likely than not becomes tokenistic, as it is not treated as fundamental in the teaching and learning partnership (Dutson-Steinfeld, 2004). There is also the very real danger of listening to but not hearing student voice (Crane, 2004). There are well- documented examples of genuine consultation with students in the areas of behaviour management, the compilation of disciplinary rules and regulations and the organisation of the school, usually within the context of membership of the School Council (Trafford, 2004). While these instances are successful and commendable, there are two areas that that are problematic. One, there is a very real danger that only strident or articulate voices may be heard, thus causing many other students to feel disenfranchised (Ruddock, 2004) and secondly, student voice is not often heard in relation to student learning (Zyngier, 2004b, Hamilton, 2005; Hattie, 2013a). The first problem reinforces already imbalanced power relations in the schools and, while students must understand democracy does not mean every one is heard equally, schools are not justified in merely maintaining the dominant culture in this way (Crane, 2004; Gilbert, 2012).

The second problem tends to be overshadowed by other reasons for listening to student voice, for example, to lessen school refusal (Zyngier, 2004) and to treat students as customers (Findlay, Fitzgerald & Hobby, 2004). The key reason however, for listening to student voice is surely to improve student learning, by allowing the students to articulate their thoughts about their learning, so that teachers are able to plan curriculum and methods of delivery that suit their students’ needs (Hamilton, op cit; Hargreaves, 2006; Tomlinson, 2010; Hattie op cit). The fact still remains that within the educational community students are the most disenfranchised group, particularly in the area of learning (Keighley-James, 2002). Recent research (Mitra & Frick, 2004) demonstrates the ability of students to speak honestly in an attempt to work with their teachers to make their school a better learning community. This has also been highlighted in a project undertaken in Melbourne (Zyngier, 2004). The participating students, who were deemed ‘at risk’ were well able to articulate their learning needs. One girl commented:

If they taught in a way that people would actually want to learn it in the first place, you wouldn’t have to keep going over it to keep it in people’s heads (p. 2).

A boy commented: “I hate working in tight small spaces. If I had lots of space, I could let my imagination take over” (p.3). Listening to and truly hearing student voice may quickly expedite change. This understanding is reiterated by Hattie (2013a) as he exhorts teachers to “listen to their students, listen to their discussions, listen to their questions, listen to what they’re grappling with, listen to where they are making errors”
(p. 4). He alerts teachers to the fact that the skills required to listen effectively differ greatly from those required to talk. Listening to students concerning their learning, also requires teachers to implement metacognitive strategies that enable students to think and communicate effectively about their learning (Hamilton, 2005). Simple strategies such as those recommended by Fogarty, (2004) and Pohl, (2004) if used consistently obviate the complaint of lack of time, an excuse often proffered by teachers (Hamilton op cit). Hargreaves (op cit) when listing the nine gateways to personalised learning, places ‘student voice’ as the fundamental component upon which all other depend. As well as ‘student voice’ the nine gateways include, curriculum, new technologies, assessment for learning, assessment to learn, mentoring and coaching, advice and guidance, design organisation and workforce reform. Trafford (2004) says that schools that engage with student voice find:

- relationships are better between students and teachers
- young people are willing to take and exercise responsibility
- discipline is improved
- feelings of safety are increased
- alienation and truancy are reduced
- inclusion and motivation are increased
- confidence and self esteem are raised
- challenge is readily accepted
- high expectations are the norm
- standards of attainment rise (Trafford 2004)

Hamilton (op cit) finds the experience of listening to student voice uplifting. Her experience reinforces Zygier’s (2004) and Mitra and Frick’s (2004) understanding of the ability of students to communicate succinctly and accurately when engaged in dialogue that is truly meaningful for them.

3.3.1.1 Listening to Parent Voice

Research widely acknowledges the fundamental importance of parents in education (Schools Council, National Board of Employment, Education and Training, 1993; Cumming, 1996; MindMatters, 2000; the Department of Education and Early Childhood Development, Government of Victoria, 2008; Finn 2009; Hare, 2010;). This research, from a range of educational perspectives, reflect the view that parents are partners in education and should be involved in setting future pathways for schools.

The relationship between school and parents is under-researched according to Gurr, Drysdale & Walkley (2012). They report “an emerging school partnership research base, (e.g. Anderson, 2006; Chan & Chui, 1997; Millar, 2006; Saulwick Muller Social Research, 2006; Spry & Graham, 2009)”. This is significant as parents are acknowledged as the primary educators and engagement of parents in the schooling of their children results in more successful learning outcomes (Leithwood & Steinbach, 2003). Leithwood and Steinbach maintain that engagement of parents is particularly necessary in challenging learning environments, if students are to achieve success in their learning. Through the engagement of parents and families there is
improvement in attendance, behaviour, the quality of school programs and academic performance.

Involvement of parents as partners in education has been varied and successful to a limited degree (Finn, 2009). Three levels of partnership are described by Spry & Graham (2009). They are: ‘Silent’, ‘Managed’ and ‘Activist’. The ‘Silent’ relationship is passive, where parents are supportive of school operations and value the expertise of school personnel, but have limited capacity or interest in taking an active part in school matters. The ‘Managed’ relationship has interested and capable parents, who are often viewed as a threat to the professionalism of school personnel. The concern of these parents is understood to be their own child. The school controls the partnership. Maintenance of the school’s Vision and Mission Statements is the given reason for this. The ‘Activist’ relationship is reciprocal, where parents are engaged and concerned with the education outcomes for all children in the school. They are also concerned with the learning environment and seek continual improvement. In this relationship they are part of decision making and supportive of school personnel. Spry and Graham (ibid) report that in Victoria, unless parents are involved in the governance of schools, the relationship between parents and school, in most cases is either ‘Silent’ or ‘Managed’. Parents are part of the governance structure in the Government School System and so for those involved in this manner, their relationship is ‘Activist’; for parents not directly involved with governance, their relationship is ‘Managed’. In the Catholic System and in Independent Schools the relationship is ‘Managed’ if they are in a formal advisory position, otherwise it is ‘Silent’. From this research it is reasonable to conclude that only where the school-parent relationship can be described as ‘Activist’ is parent voice heard.

3.3.2 Rigour in Education

High expectations are paramount for student learning and widely advocated (Russell, MacKay & Jane 2001; Ferguson, 2002; Brophy, 2008; Sarra, 2011). When students understand expectations as relevant they promote motivation and success (Blackburn & Armstrong, 2011). Support is essential if students are to achieve high expectations (Williamson & Blackburn, 2010). Setting and achievement of high expectations is contained in the broader category of rigorous learning.

3.3.2.1 Rigorous Learning

A common definition of the term ‘rigour’ as rigid, inflexible, or unyielding, does not reflect the understanding of the term when applied to education. Rigour in education is applied to pedagogical approaches that encourage students to think critically, creatively, and more flexibly (Allen, 2012), expect students to learn at high levels (Blackburn, 2008) or a curriculum that is focused, coherent and appropriately challenging (Schmidt, 2010). Allen (op cit), reporting a conversation with Robyn Jackson, articulates four steps in rigorous learning. Learners need to:
1. know how to create their own meaning from their learning
2. organise information so they create mental models,
3. integrate individual skills into whole sets of processes, and then
4. apply what they have learned to new or novel situations.

Through this process they are able to think critically, creatively and more flexibly. In order for teachers to scaffold this process for students they need to know their students, a basic assumption for differentiated, rigorous learning (Tomlinson, 2010). The creation of mental models is achieved with the use of various graphic organisers (Allen, *op cit*). The graphic organiser assists students to see the connection between facts and ideas so they can organise them in their heads. This enables independent learning and assists in the learner avoiding “learned helplessness” (Allen *op cit* p. 4). Formative assessment is integral to this process as a teacher collects evidence of student understanding and leads them to learn further (Allen *ibid*; Earl, 2003; Black & Wiliam, 1998). Relevant is the derivation of the word education which means “to draw out (*e*-ducare)” (italics in original) (Groome, 1998, p. 200) and assessment which is derived from the Latin *assidere* meaning ‘to sit with’ (Earl, 2003). Learning and assessment therefore are not separate entities but complex intertwined processes. Indeed assessment is learning (Earl, 2003) and should only exist to enable learning (Baker, 2003). If this is acknowledged in practice, the learner is assessed on the basis of performance rather than a test (Murdoch & Wilson, 2004).

Persistence in a rigorous learning process can be difficult unless a teacher identifies the difference between a destructive struggle and a productive struggle (Allen, 2012). Allen (2012) identifies that a destructive struggle is one that “leads to frustration, makes learning goals seem hazy, feels fruitless, leaves students feeling abandoned and on their own and creates a sense of inadequacy” (p. 3). Conversely productive struggle “leads to understanding, makes learning goals feel attainable and effort seem worthwhile, yields results, leads students to feelings of empowerment and creates a sense of hope” (p. 3). This is particularly important as rigour applies to the ‘how’ of teaching rather than the ‘what’. Necessary for the productive struggle is the belief that all students can succeed if the teacher develops an effective learning environment (Black, Harrison, Lee, Marshall & Wilam, 2004). Daniel Pink (Azzam, 2014) speaks of the importance of linking learning to the question “why?” in the development of an effective learning environment, as a student will learn much more effectively if he or she knows why they are learning something. He notes teachers are often dismissive of this question because they see it as time wasting rather than understanding the motivation the answer engenders. He also notes that rigour need not be onerous and can be present along with fun in learning, maintaining, that, “Rigor and playfulness pair much more smoothly than we think they do - and that pairing can have some pretty spectacular results.” (p. 4). A link between rigour and engagement is forged, if a student describes learning as neither too easy or too hard but sufficiently challenging to push them to an increasing level of difficulty (Azzam *ibid*; Hamilton, 2005). They are caught in flow moments where “we lose a sense of ourselves, we're in the moment, and we're deeply engaged” (p. 3). Rigorous learning has its foundation in education policy.
3.3.3 Education Policy

3.3.3.1 Victorian ‘Effective Schools Model’

The development of effective, rigorous learning environments has been and remains the object of policies, frameworks and practices implemented in Victorian schools. Relevant for this project are the Effective Schools Model for the internal management of a school and the Wannik and Closing the Gap strategies directly relating to Indigenous Education.

The Blueprint for Government Schools (2003) produced the ‘Effective Schools Model’ (Victorian Department of Education and Training, 2005) reflecting the self-managing school concept (Caldwell & Spinks, 1998) The Effective Schools Model has been and still is used extensively in the context of school review in that it enables discussion of each of its eight elements which are, professional leadership, focus on teaching and learning, purposeful teaching, shared vision and goals, high expectations of all learners, accountability, learning communities and stimulating and secure learning environment. While the Blueprint through its flagship strategies, particularly Student Learning, Building Leadership Capacity and Teacher Professional Development delivered commendable documents such as the Principles of Learning and Teaching, which informed the development of the Effective Schools Model, this Model is essentially a structure for school organisation. Hooley (2009) notes that the ‘Effective Schools Model’ has “never been able to adequately demonstrate …improved student learning outcomes” (p. 128), which may answer the question posed by Daniel Pink (Azzam, 2014): “Are our education policies designed for the convenience of adults or for the education of our children?” (p. 3).

Success in improving student learning outcomes requires a model for teaching and learning such as the ‘Design Elements for Effective Teaching and Learning’ (Crevola & Hill, 1997), which has beliefs and understanding at the centre of the model. This model with its focus on teaching and learning moves beyond an industrial model of organisation to one that centres around the beliefs and understandings about teaching and learning that prevail in the school. In this model teaching and learning, the core business of any school is at the centre of the model and drives the thinking and consequent actions. Figures 2.4 and 2.5 identify the elements of these two models.
Figure 3.4 *Effective Schools Model* (Department of Education and Early Childhood Development, 2005)

Figure 3.5 *Design Elements for Effective Teaching and Learning* (Hill & Crevola, 1997)
3.3.3.2 ‘Aboriginal and Torres Strait Islander Education Action Plan 2010-2014 and Closing the Gap

While the focus on teaching and learning in the ‘Effective Schools Model’ and ‘Crevola/Hill Model’ is commendable, neither focuses specifically on the improvement of student learning outcomes for Indigenous students. The fact that Indigenous students generally perform at lower levels than non-Indigenous students in literacy and numeracy, school engagement and attendance and retention and completion is well documented (Boulden 2003; ABS, 2007; NAPLAN, 2008; MCEETYA, 2005-2007; SCRGSP, 2006, 2007; Langton & Ma Rhea, 2009). An attempt to address this is evident in the The Aboriginal and Torres Strait Islander Education Action Plan 2010-2014 (MCEEDYA).

The Aboriginal and Torres Strait Islander Education Action Plan 2010-2014 (MCEEDYA) is informed by the review of Australian Directions in Indigenous Education 2005-2008, undertaken by Aboriginal academics. The Plan documents the agreement of the Prime Minister, Premiers and Chief Ministers through the Council of Australian Governments (COAG) to six targets, four of which relate to learning outcomes for Indigenous students. They are to:

- ensure all Aboriginal and Torres Strait Islander four year olds in remote communities have access to early childhood education within five years (by 2013);
- halve the gap for Aboriginal and Torres Strait Islander students in reading, writing and numeracy within a decade (by 2018);
- at least halve the gap in Aboriginal and Torres Strait Islander Year 12 attainment or equivalent attainment rates by 2020; and
- halve the gap in employment outcomes between Aboriginal and Torres Strait Islander Australians and other Australians within a decade (by 2018).

Attendance, Engagement, Learning and Achievement in a safe cultural context are the goals of the Plan. Education providers at the local, systemic and national levels, through the agency of families, communities, and all levels of schooling aim to fast-track the improvement of literacy and numeracy outcomes in order to provide “Pathways to real post-school options” p. 5. Programs are required to be sustainable, physically and culturally accessible, effectively coordinated and have regular and transparent performance monitoring, review and evaluation.

The pre-school focus is holistic and aims to:

- promote early engagement with learning;
- provide a strong foundation for future educational achievement;
- encourage the social, emotional, physical and cognitive development of children from birth; and
- support children in their transition to school (p. 9).
Once a child is at school attendance and engagement are in focus, including making connections.

High expectations are paramount as:

“Evidence shows that children who are expected to achieve at school and who have high expectations of themselves are more likely to succeed” (p. 12).

The Plan advocates a two-way approach to education and requires non-Indigenous staff of schools to go out and meet community members. The Plan also states:

*The involvement of Aboriginal and Torres Strait Islander people at all levels of educational decision-making and the participation of Aboriginal and Torres Strait Islander principals, teachers, education workers or community members in schools and classrooms provides strong role models and builds connections, contributing to a positive impact on educational outcomes* (p. 12).

Detailed actions are listed for the local, systemic and national providers.

Desired outcomes for Literacy and Numeracy are also listed and these include halving the gap in reading, writing and numeracy achievements for children by 2018, halving the gap for Indigenous students in Year 12 (or equivalent) attainment rates by 2020.

In the Prime Minister’s report on *Closing the Gap* in February 2014 the update on current targets states that progress against halving the gap in literacy by 2018 is disappointing as there has been improvement in only two (Year 3 and 5 Reading) out of eight areas. This target is measured using data from the annual National Assessment Program in Literacy and Numeracy (NAPLAN). The gap is measured as the difference between the proportion of Indigenous and non-Indigenous students at or above the National Minimum Standards (NMS) in reading and numeracy at Years 3, 5, 7 and 9. The target to halve the gap for Indigenous students in Year 12 (or equivalent) attainment rates by 2020 is “on track to be met” (p. 6).

### 3.3.4 Engaging Indigenous Students

If learning is to be improved along with attendance and retention the fourth element of the Victorian Auditor General’s Report (2008) needs to be addressed. This is student engagement. All learners require motivation to learn (Meece, Anderman & Anderman, 2006; Blackburn, 2012) and this is no less true of Indigenous learners. There needs to be a demand in an Indigenous community for education (Pearson 2004) and this demand must come from the whole community not only those who are school age (Hooley 2009). This engagement of the community and consequent demand only occurs in a cultural context, so it is important to embed learning in culture. If Indigenous students are not to regard learning activities with a negative connotation, then these activities must be culturally relevant (Hooley *ibid*). The
quality of teaching is therefore paramount. The greatest source of variance in student achievement is the teacher (Hattie, 2003) and teachers of Indigenous students must believe they can learn (Sarra, 2011). In order to nurture student engagement school-wide, the principal must be someone who “has a deep understanding of problems arising from practical experience and works diligently with colleagues in planning realistic strategies about how to proceed” (Hooley, *op cit*, p. 130). Sarra (*op cit*) also understands the principal’s role to be fundamental in the engagement of students. Engaging with students in a cultural context means sharing, respecting and celebrating Indigenous culture and heightening awareness of Indigenous cultures and knowledge (Hooley, *op cit*; Louth, 2012). Strategies identified by Indigenous Elders to develop a greater understanding of Indigenous culture include the provision of opportunities to connect to country, to take part in cultural activities and to acknowledge traditional systems (Thompson, 2010). Above all the school community must “*respect the knowledge and beliefs each individual brings to the learning situation*” (Hooley, *op cit*, p. 69 from Herbert, 2002). The fact that student engagement is problematic indicates that classrooms generally are far from democratic from the perspective of Indigenous learners.

### 3.3.4.1 Cultural Interface

The term Cultural Interface (Nakata, 2007) refers to the “contested space between two knowledge systems” (p. 9). Indigenous knowledge has evolved over time and so contemporary Indigenous people have a contemporary understanding of Indigenous knowledge, as they are all “also grounded in Western epistemology” (p.10). This has occurred over time through exposure to religion, language, laws and education and to contemporary living, which includes the political, economic, and social as well as technological and recreational aspects of mainstream Australia. Indigenous people often face contradictory situations and this produces tension which “both informs as well as limits what can be said and what is to be left unsaid in the everyday” (*ibid* p. 12). Because of the range of experience of their Indigenous culture in relation to mainstream Australian culture it is impossible to take a definitive stance when identifying cultural beliefs of an individual or group. Nakata advises “a flexible approach to gaining the best fit between students, learning, teaching.............. to use everything at our disposal to achieve the best result for our students.” (*ibid* p. 13). Yunkaporta (2009) offers assistance in achieving this with pedagogical advice for teachers, advice to assist the engagement of Indigenous learners.

### 3.3.4.2 Ways of Aboriginal Learning

Aboriginal perspectives in schools come from Indigenous processes of knowledge transmission. Yunkaporta (2009) identifies eight ways of learning when accessing knowledge of country, language, people and relationships. These are Story, Map, Silence, Signs, Land, Shape, Back-tracking, Home- world. In order to learn, Indigenous people share stories, learn maps, understand non-verbal language, decipher symbols and images, come to know the land and its stories, through circular logic involving balanced rather than oppositional thinking, through deconstructing and re-constructing and through community links. Use of these pedagogical strategies will engage Indigenous learners. Yunkaporta (*ibid*) says that without understanding
these eight ways of learning all these elements will be covered if learning experiences are developed by “working with cultural integrity, with community knowledge at the centre of everything and Aboriginal people leading the project.” (p. 8). If Indigenous people are leading the project they will address cultural interface as a matter of course.

The research report, ‘Listening to and Learning from Indigenous Teachers’ (Santoro et al., 2011) builds on the understanding of Indigenous learners’ ways of knowing to recommend drawing on “the direct experiences of the informal and experiential learning and teaching that occurs between children, parents and elders in Indigenous communities” (p. 68) in order to develop pedagogical approaches in the classroom. Indigenous knowledge forms a connected whole rather than being contained in discrete, bounded and compartmentalised units and teachers in this study acknowledged the difficulties of working with Indigenous students in a learning environment that does not reflect a holistic approach. Direct, experiential learning in the context of community and environment is part of their culture and so should be translated to learning in school. The study also highlights the importance of understanding the deprivations in many Indigenous learners’ homes and the importance of teachers understanding the backgrounds from whence their students come. The study attributes many of the difficulties of poor educational outcomes to poor home/school relationships. One of the solutions it proposes is the establishment of informal parent/teacher relationships outside the school context. This unfortunately is inhibited in many schools by the high teacher turnover.

An appropriate model of schooling is required to support appropriate ways of learning for Indigenous students. While Indigenous ways of knowing must be included in any pedagogical approach for Indigenous students, these students also need to become proficient in mainstream ways of knowing (Nakata, 2003). Hooley (2009) names such a model “‘general polytechnic’ where ‘polytechnic’ is taken to mean a school based on ‘many arts of learning’ and ‘general’ indicates a broad education initiating students into various forms and fields of knowledge” (p. 64). The model allows for the inclusion of broad areas of integrated studies as well as discrete areas of study. Incorporation of a discursive learning environment supports both the Indigenous and non-Indigenous ways of learning.

3.3.5 Discursive Learning Environment

Respect, recognition and reciprocity are the hallmarks of a discursive environment (Hooley, 2009). According to Hooley it is notable that this environment is not a goal for the classroom exclusively, as this collegial approach is relevant for all interactions taking place within a school community. Two-way inquiry learning enables a discursive learning environment.

3.3.5.1 Two-way inquiry learning

Hooley (2009) presents a pedagogical design appropriate for Indigenous students. ‘Two-way inquiry learning’ (Hooley, 2002; 2009) is an epistemological approach based on Dewey’s approach to inquiry and learning which is dynamic in that
it is concerned with the continuing understanding of life as experienced by real people. Learning from both cultures, Indigenous and non-Indigenous combines to form “the basis of new understandings.” (ibid p. 82). This design ensures cultural inclusivity as both Indigenous and non-Indigenous epistemologies are integral to the learning and neither is understood as superior or inferior. This enables “two-way connections with the regular curriculum.” (ibid p. 82). There are seven dimensions in two-way inquiry learning (ibid Table 10.1, p. 158) all of which require flexible, reflective, holistic, collaborative approaches to learning and the production of knowledge in all learning areas, where “responsibility for outcomes falls on the organic relationship between school and community.” (ibid p. 130). Truth rather than being the property of a single culture is recognised as multi-faceted and develops through robust discussion of different viewpoints within a democratic scenario. Hooley warns that some may find it somewhat daunting however, as “it does assume change rather than statis as the normal mode of human biological and social life.” (ibid p. 160).

3.3.5.2 Learning Circles

Patterns in Indigenous thought are more circular than linear and so any two-way process involving Indigenous people either in classroom practice or school management benefits from operating from this vantage point (ibid). The learning circle, in mainstream Australian education is associated with Socrates (ca. 470-399 BC) and Socratic circles. In this approach students form a circle and adopt a question and answer format. Learning circles for Hooley require a democratic approach where teams of students or adults discuss issues in classroom learning or wider school issues concerning the curriculum. In this approach the whole school community is responsible for deciding its accountability to all stakeholders and the manner in which this will be achieved. The circle is significant in Indigenous society as it represents the interconnectedness of all nature; it also represents equality, an understanding shared by western culture. Two-way inquiry learning facilitated by learning circles incorporate the features of a democratic classroom (Pearl and Knight, 1999), which includes persuasion, inclusivity and equality thus enabling the collaborative solving of real-world problems. Commitment to a democratic classroom in which two-way learning and learning circles are implemented enables a “reflexive, discursive learning environment that corrodes the iron cage of social determinism and builds new prospects for imagination and investigation.” (Hooley, op cit p. 26) and emphasises “construction of new knowledge rather than instruction in old content” (p. 158). Commitment to a democratic classroom also requires teachers to have an understanding of what constitutes giftedness in an Indigenous context.

3.3.6 Gifted Indigenous Students

Sarra (2011) comments that “[s]adly for many Aboriginal people it seems that successful, hardworking and Aboriginal (italics in original) are mutually exclusive terms. Literature based on understanding of Aboriginal giftedness (Christie, 2011; Munro, 2011; Chandler, 2011) is therefore significant. Christie (ibid) after consultation with Elders in the Northern Territory identifies the understanding of giftedness in an Aboriginal community is closely associated with leadership qualities.
Chandler (2011) explains giftedness in terms of the ability of Aboriginal people to identify plants and animals in the context of their location and to identify complicated kinship relationships and act according to the dictates of these. He exhorts mainstream Australia to recognise abilities that are not evident in the wider Australian population and declare Aboriginal people who exercise these abilities extremely well to be gifted. As highlighted by Rigney (2002) it has long gone unrecognised in contemporary Australia that “[u]nder Aboriginal educational jurisdiction, Indigenous children have long been successful in education for forty thousand years or more. It is only in the last 200 years of colonisation that Indigenous failure has occurred” (p. 75). Chandler (op cit) highlights the fact that what is regarded as giftedness in mainstream educational system in Australia and what is regarded as giftedness according to an Aboriginal knowledge system are totally different. He maintains that young Aboriginal people value mainstream education, but mainstream educators do not value what Aboriginal students bring to the task. The Myimbarr Learning Centre in Wollongong, a cluster of fourteen schools provides a “blend of extended school-based learning and emphasis on indigenous knowledge systems” (p. 6). This is an example of two-way schooling (Harris 1990; Hooley, 2009).

Munro (2011) advocates complex problem solving tasks for the identification of gifted Aboriginal students. Acknowledging the extensive global research into giftedness as displayed in diverse cultures (Sternberg, 2007; Ford, 2005; Greenfield, 1997; Passow & Frasier, 1996), he presents the significance of using authentic problem-solving tasks to identify gifted knowing and thinking (Sternberg, Nokes, Geissler, Prince, Okatcha, Bundy & Grigorenko, 2001). These can be longer or shorter tasks as appropriate (Sternberg, 2006; Munro, 2009). Munro (ibid) developed a process for assessing problem-solving skills. Evidence is gathered in eight aspects of problem-solving and then these are scored according to the number of relevant ideas and the complexity of thinking. Using a triangulatory approach with Ravens Progressive Matrices and Creative Writing scores Munro found that his problem-solving task, a Situation Judgment Problem-solving task (SJP), demonstrated that responses of higher problem solving students were qualitatively different from those of lower achievers. The differences are in “the breadth and depth of ideas displayed; the complexity of links; the relevance of ideas; evidence of lateral or divergent thinking; the fluency and flexibility of reasoning; and, the display of leadership potential” (p. 31). Munro concludes that a SJP takes “account of plurality in how giftedness and intelligence are constructed in a range of ways” (p. 32) and so provides the opportunity for Aboriginal students to demonstrate their understanding in authentic problems that are relevant to them.

3.4 Designing Curriculum

Harris (1990) identifies curriculum as all learning experiences students access at school including the what, how, by whom, where, why and when of each. He also stresses that the curriculum includes the expectation that students, teachers and parents are cognisant of what students have learned, not only what they have been taught. The design of a curriculum draws on a variety of curriculum documents, programs and teaching and learning approaches to develop a learning program relevant for a particular school in the context of its beliefs and culture. Academia and
wellbeing are both integral in the design of a holistic curriculum. Harris (ibid) recommends that for Aboriginal children, knowledge related to their culture should be embedded in the formal curriculum learning areas as well as being acquired by participation in relevant cultural activities, through which they learn to live their daily lives in the context of community. Authentication of the curriculum should be by Aboriginal adults. This understanding is reiterated in research (Doyle & Hill, 2008; Hooley, 2009; Sarra, 2011; Yunkaporta, 2011). A relevant curriculum for Aboriginal students should combine these understandings and approaches. “The process of curriculum design and development at the school level is a cultural process” (Gilbert, 2012, p. 11 and so reflects “its extant beliefs, values and relationships and the meaning attributed to them by those involved” (p. 11).

3.4.1 The Australian Curriculum

Since the publication of the first drafts in 2010 Australia has been engaged in the development of an Australian Curriculum. The engagement has not only been the prerogative of curriculum writers employed by the Australian Curriculum and Assessment Authority (ACARA) but has also been evident within the educational and wider community, through participation in an extensive consultation process and through articles and discussions in the popular press.

The first four Learning Areas (Phase 1) of the curriculum framework commenced implementation in the Australian Capital Territory (ACT) in 2012 and in all the other States except NSW in 2013. Implementation in NSW commenced in 2014. Within this curriculum framework are three Cross Curriculum Priorities, the local one of which is, Aboriginal and Torres Strait Islander Histories and Cultures. For the first time Australia has an explicit, positive emphasis on our first nation people. A Priority is not a Learning Area but an element that is to be embedded in all Learning Areas within the curriculum.

3.4.1.1 Aboriginal and Torres Strait Islander Histories and Cultures

The Australian Curriculum documents (http://www.australiancurriculum.edu.au/CrossCurriculumPriorities/Aboriginal-and-Torres-Strait-Islander-histories-and-cultures), acknowledge the strength, richness and diversity of Aboriginal and Torres Strait Islander communities. They also acknowledge the deep knowledge traditions and holistic worldview of the Aboriginal and Torres Strait Islander People and their Identity, which “is intrinsically linked to living, learning Aboriginal and Torres Strait Islander communities” (para. 1). The interconnected aspects of Country/Place, People and Culture, which form the Organising Ideas of the Priority are there to assist teachers develop learning for students that enhances the Learning Area by addressing fundamental concepts and so “deepen their knowledge by engaging with the world’s oldest continuous living cultures” (para. 3). Through this engagement it is envisaged that “[t]his knowledge and understanding will enrich their ability to participate positively in the ongoing development of Australia” (ibid).
3.4.2 Partnerships

Since the Declaration on National Goals for Schooling in the Twenty-First Century (MYCEETYA, 1999), the benefits of partnerships between schools and community institutions has been widely acknowledged in the education sector (Hands, 2005; Berg, Melaville & Blank, 2006; Epstein, 2009; Black, 2009). In order to achieve this goal schools must be learning communities “working in partnership with business, industry and the wider community” (MYCEETYA, 1999). The Council for the Australian Federation, in the Future of Schooling in Australia (2007) highlighted the positive effect of these partnerships on student learning. The understanding of schools as part of localised networks of complex partnerships (Clemans, Billet & Seddon, 2005) enable deeper, sustainable relationships (Chysels & Thibodeaux, 2006). ACER in the report Schools First (2008) identify young people, schools, the broader community and businesses and organisations as the beneficiaries of vibrant partnerships and state that evaluations of the effectiveness of such partnerships demonstrate “improved student engagement and behaviour, higher attendance and graduation rates, improved academic performance, greater parental involvement, better health outcomes and employment rates” (p. 13).

The Maths and Science Partnership Project 2010-2012 undertaken by Schools Connect Australia, an independent, non-profit organisation that aims to build robust, sustainable philanthropic partnerships between schools and businesses included 587 schools in 36 partnerships. The organisation works to skill school and business personnel in the development of productive partnerships. Their focus is the Government sector where 80% of Australia’s disadvantaged students are enrolled (Gonski, 2011). Schools Connect Australia believes “Australian students should all be able to dream big, and have the confidence and skills to pursue those dreams, regardless of where they live or whom they live with” (http://schoolsconnect.org.au/about/who-we-are/). The goal of this project was “to bring authentic and real-world learning into maths and science classrooms around Victoria” (Gerovska, 2012). The project report states that improvements were demonstrated in knowledge and awareness of the partnering process and the attitude and understanding of the worth of partnerships. There was also evidence of initiating partnering behaviours, resulting in significant collaboration between industry, business and educators (ibid).

Townsend (2014) addressing the corporate sector in the USA describes partnerships as powerful because they are life giving; they energise especially in the execution of complicated projects and through this, interest is maintained throughout the project. With this understanding Townsend goes beyond the concept of collaboration in a narrow sense and incorporates the building of relationships, and the transformation of these relationships from good to extraordinary. This understanding is congruent with an ecological perspective. From an evaluative perspective Townsend says, “[p]artners boost the quality of deliverables, access a broader range of resources, and develop innovative ideas” and so gain new perspectives and “a magical experience of synergy that they'll remember all of their lives” (http://www.corpedgroup.com/resources/ml/CreatingProdPartnerships.asp, p.1).
Development of relevant curriculum emphasising 21st century skills necessary for survival in a complex, connected world has been a focus of the Victorian Essential Learning Standards (2005) and remains so in AusVELS (2013) and the Australian Curriculum (2013). Gardner (2008) identifies five minds for the future, the development of which must be reflected in school curriculum. These are the disciplined mind, the synthetic mind, the creative mind, the respectful mind and the ethical mind. More often, scholars identify literacy, numeracy, information and communication technology, thinking and communication skills as essential learning (Trilling & Fadel, 2009; Kay & Greenhill, 2011; Griffin, Care & McGaw, 2012; Blinkley, Erstad, Herman, Senta Raizen, Ripley; Gilbert, 2012) and the skills of citizenship (Griffin, Care & McGaw op cit). The General Capabilities of the Australian Curriculum which are, Literacy, Numeracy, ICT capability, Critical and creative thinking, Personal and social capability, Ethical understanding and Intercultural understanding provide a framework for schools to implement relevant teaching and learning programs and so to combat Wagner’s (2009) contention. He maintains that schools suffer from ‘answeritis’ and it is only by re-thinking, re-imagining and re-conceptualising education that students will learn 21st century skills in a meaningful manner. Wagner also articulates curiosity and imagination as essential skills for contemporary living.

For students to reach their full potential and engage in the deep learning necessary for contemporary living, learning must be personalised (Hargreaves, 2006). According to Hargreaves one fundamental component of personalised learning is assessment for learning, which along with student voice and learning to learn, lead to deep learning. Personalised learning has been advocated by eminent educationalists over a long period of time is evident in the ‘Dalton Curriculum Model’ (Parkhurst, 1922: http://www.daltoninternational.org/index.php/dalton-education.html). This model, drawing on the work of Dewey (1916), facilitates independent thinking and the development of research skills and creativity. Personalised instruction considers a student’s prior learning and the pace at which she can progress. The Dalton Model is operational in the Dalton School in the USA

Learning takes place on a one-to-one basis, in small groups, or as part of whole class activities. Opportunities are provided at all levels to encourage children to become active and independent learners.
(http://www.dalton.org/program/first_program/curriculum)

3.4.3.1 Assessment and Evaluation

Assessment in a 21st century model includes Assessment for Learning (Hargreaves op cit; Gilbert, 2102) as well as summative assessment or Assessment of Learning and Assessment as Learning or metacogniton (Earl, 2003). According to Earl (ibid) these three types of assessment form the basis of the understanding of assessing to a ‘standard’. As noted before, assessment comes from the Latin word ‘assidere’ meaning to ‘sit beside’. To be effective assessment must be a “recursive process” (Brookhart, 2010, p. 1). This highlights the feedback given to students,
which is the most powerful way to improve student learning (Black & Wiliam, 2001; Hattie & Timperley, 2007; Brookhart op cit). Brookhart alerts teachers to be aware of the affect their manner of giving feedback may have on students and also to be aware of the characteristics of their students that may affect the reception of feedback.

Assessment is therefore an exploration (Masters, 2005), which engenders a conversation about learning (Baker, 2003); exploration and conversation however, give way to monologue, if the assessments given are dominated by surface level knowledge (Hattie, 2013a) or take no account of student voice (Hargreaves op cit). The focus of assessment should be on learning rather than allocating grades (Earl op cit; Brookhart op cit; Kuntz, 2012; Azzam, 2014). This places the learner firmly in the centre of education and impacts on student motivation and engagement (Hargreaves op cit; Tomlinson, 2014a; Azzam, op cit). A focus on learning also enables early detection of student learning problems (Gilbert, 2012). Masters (2013) and Hattie (op cit) following Dweck (2006) highlight the necessity of the teacher having a ‘growth mindset’. In order to establish this a teacher must be convinced that learning is ongoing and that all students are capable of further learning (Chappuis, 2014). This means that at any point in time the learning narrative of a student can be described in terms of student progress over a period of time. This understanding requires the recognition that in every classroom there are individual learners who require the “setting of personal stretch targets” (p. 3). The acquisition of these targets however, depends on the student’s ability to self assess, the ability to use metacognitive skills, which Brookhart (op cit) describes as the “essence of learning – the continuous process of assessing one’s own mastery of content and skills, and discerning and pursuing next steps to move forward toward a goal” (p. 1). She reminds teachers that students need to be taught how to do this, as it may not come naturally. The three types of assessment do not operate as discrete entities but combine with the ultimate goal of improving student learning.

Assessment as a conversation about learning is extended as Daniel Pink (Azzam, op cit) discusses Dweck’s understanding of the difference between mastery of a skill as the object of a learning goal and the achievement of a narrow performance goal; the latter is linked to grades, often at the expense of learning in the complex manner that is required for mastery. Pink maintains that a student who wishes to attain mastery is more likely to persist when “the going gets tough” (p. 2). Engagement in the pursuit of mastery, according to Pink depends on the degree of control a student has over his or her learning experiences in the classroom. Too often control of student learning is the main goal of the teacher and so students must choose either to comply or defy. Neither reaction is desirable. He understands compliance to be problematic as in order to engage students “you have to pull back on control and create the conditions in which they can tap into their own inner motivations” (p.6). The skilful teacher is able to increase student autonomy “the right amount at the right moment” (p. 2). Pink’s advice is to implement learning experiences that give students some choice and lead towards mastery of a learning goal. Scores and grades are used as feedback rather than as end points. While systems, school leaders and teachers express the desire to have engaged rather than compliant students, the manner in which schools are managed is counter productive as “management is all about getting compliance” (p. 3); this is easier for those who lead education systems. He advises a change of mindset when he says “Let's trust people with autonomy instead of assuming they can't handle it” (p. 3).
Evaluation of programs and pedagogy in teaching and learning is an essential component of curriculum development and the professional learning of teachers. Guskey (2005) presents a comprehensive model for the evaluation of professional learning. The model has five levels:

1. gauging participants reactions;
2. gauging participants learning;
3. organisational support for change; f
4. participants use of new knowledge and skills; and
5. the effect on student learning outcomes.

To commence the process participants identify the desired student outcomes and then plan action in the other levels. Too often evaluation of teacher professional learning only addresses their reactions to initial input received from some designated source. This is peripheral as it fails to address the more important issues of their understanding and use of the learning. The third level is important, as the support received through the organisation is paramount for the effectiveness of the implementation. The fourth and fifth levels address student outcomes, the improvement of which is the purpose of any teacher professional learning. Evaluation over these five levels ensures that teachers continuously evaluate their practice as part of their professional accountability, rather than attend professional learning sessions with no requirement to implement their learning in their school (Cole, 2012).

3.4.3.2 Academic Learning

The following learning literature is relevant as it relates to the academic learning at Worawa Aboriginal College.

3.4.3.2.1 Language: Indigenous Language Revival and Reclamation

Many of the 5000 languages spoken worldwide are moving towards extinction especially those that are spoken by relatively few people (Lo Bianco, 2009). According to Lo Bianco (ibid) his concern is related to many of the 350 languages spoken in Australian homes and the lack of provision in education systems for the learning of these languages in school programs. Concerns similar to this led to action by Aboriginal people in Victoria.

Over the last 20 years Victorian Aboriginal people have demonstrated a resurgence of interest in their language heritage as they assert their Aboriginal identity as emerging writers, playwrights, educators and scholars. Aboriginal community initiatives have been undertaken by the Worawa Independent Aboriginal College, the Lodjba Koori Language Centre and subsequently, the Victorian Aboriginal Corporation for Languages (VACL) (Bowe, Reid & Lynch, 2010, p. 313).

Worawa Aboriginal College has led the way for the revival and reclamation of Aboriginal languages through the teaching of Yorta Yorta as part of the broader
In 1992, the Victorian Curriculum and Assessment Authority (VCAA) responded to a request from the College to develop an accredited Year 11-12 Study on Indigenous Languages. The Victorian Certificate of Education (VCE) Study, *Indigenous Languages of Victoria: Revival and Reclamation* was fully accredited in 2004 and requires that students build on the language knowledge passed on from Yorta Yorta family members by learning where to find written historical resources for Victorian Indigenous languages and acquiring skills in analysing such materials as part of the language reclamation process. *Indigenous Languages of Victoria: Revival and Reclamation* (VCCA, 2013) developed from classroom practices at Worawa, where the pilot program was trialled between 1995-2003.

This VCE study was designed to enable students to:

- Retrieve and reclaim elements of a Victorian Indigenous language/language variety and use the knowledge gained to communicate with others
- Understand and appreciate the range of cultural contexts in which the target language/language variety functions
- Make connections between language reclamation, cultural restoration and group/individual identity
- Develop knowledge and skill relevant to language retrieval and reclamation
- Observe and utilise parallels between the target language/language variety and other Victorian/Australian Indigenous languages to facilitate the reclamation process
- Understand language as a system
- Understand and appreciate the role of the target language/language variety in contemporary society

The importance of community consultation and involvement is regarded as a crucial part of the Study Design of this subject.

The Study Design states it this way:

*The Indigenous Languages of Victoria: Retrieval and Reclamation study should be seen as a part of the broader activity taken, particularly by Victorian Indigenous communities to revive their language heritage. For this reason, the student, under the teacher’s guidance, will be expected to actively contribute to the total body of knowledge for the language targeted for study.*

*The intergenerational transfer of knowledge is seen as a key value underpinning the area of study and as enhancing the possible outcomes. Equally important is the process of Indigenous students reclaiming their cultural heritage, or, reconnecting with the spirit.*

*(Indigenous Languages of Victoria: Revival and Reclamation, VCCA, 2013, p. 11)*

Students study key features of the languages and similarities and differences between the languages in different parts of Australia in the categories of:
• Sound and writing systems
• Vocabulary and vocabulary building
• Grammar
• Other means of communication such as drawing and painting, and hand signs.

This approach allows students to apply parallels from other languages to assist in the retrieval and reclamation of their own language.

3.4.3.2.1 Language: Bilingual Programs

The Australian Northern Territory Curriculum Framework (2009) acknowledges that 40% of school students in the Northern Territory speak languages other than Standard Australian English in their homes. These include Indigenous students who speak one or more local Indigenous languages, Indigenous students who speak Kriol and those who speak Aboriginal English. There is continual debate in educational circles on how to address the five key objectives related to Australian Indigenous languages (Office of the Arts, 2009). These include:

1. bringing to national attention the oldest surviving languages of the world
2. using all including the critically endangered languages
3. recognising and working with Indigenous languages at a governmental level
4. restoring the use of rarely spoken languages and
5. supporting Indigenous languages in schools.

The recent focus on achieving mastery of Standard English Literacy in Australian schools has given voice to detractors of bilingual programs and their ability to improve student outcomes in Standard English Literacy (Purdie, 2009). Purdie notes, “well-designed bilingual programs are academically effective and do not hold back students’ acquisition of English” (p. 3). Most of the reasons given by detractors involve the over-use of the students’ first language and the consequent over-reliance on its use (Lee, 2012; Timor, 2012). In a balanced approach this is not problematic as the use of the first language in such an approach enhances the acquisition of the second language. Ferlazzo and Hull-Sypnieski (2014) draw on the work of Freire (1973) in advocating the use of students’ first languages to teach argument writing. The advantages of bilingual programs, many of which relate to the Linguistic Interdependence Hypothesis and the Theory of Cross-Linguistic Transfer ensure a smooth pathway to language acquisition and are underpinned by brain research which proves transfer between languages is a normal function of the human brain (Timor op cit). Cummins (2000) emphasises the need to develop a child’s first language as well as teach English early in this development.

Brian Devlin from Charles Darwin University, Northern Territory analyses the status and future of bilingual education programs using Indigenous languages and English in remote Northern Territory, an educational approach that is very much contested (Devlin, 2011). He notes that:

“current politicians debunk the bilingual approach, thereby robbing schools and literacy plans of any momentum and distracting attentions

Walking Together to Make A Difference: Section 3: Literature Review 71
Devlin outlines significant historic milestones dating from 2008 when the Northern Territory Indigenous Strategic Plan 2006-2008 committed to strengthening the bilingual program and to make it more effective and sustainable in order to deliver outcomes. Their definition of bilingual education, quoted by Devlin, is:

“where students first language is used as a language for learning across the curriculum, while at the same time they are learning to use English as a second language across the curriculum” (ibid, p. 261).

Devlin notes that only eight schools offered a program according to that definition. He claims that the dwindling supply of teachers equipped to teach in bilingual programs was problematic at the time but instead of citing this as the reason for severely cutting bilingual approaches, the Northern Territory, government cited poor academic performance by schools using the bilingual approach, as the reason for the change. Devlin claims the sudden curtailment was a “combination of deceit and naivety” (p. 262) and also claims that the evidence used, was incomplete and invalid (Devlin, 2009). It was however decreed, that in all Northern Territory schools the first for hours of instruction would be conducted in English (Devlin, op cit). English is therefore the only language to be used in the morning, the child’s first language may be used in the afternoon. Devlin concludes with his opinion:

In those circumstances where a sufficient body of students speak a common language, and where the parents want them to be able to read and write in their own language as well as English, then there is value in arranging a well-organised bilingual-biliteracy program .... For as long as the available pool of Indigenous teachers and teacher aides make that possible. (Devlin, 2011, p. 265)

Devlin’s and Purdie’s (op cit) opinions are supported by the research described in the Menzies Report (Silburn, Nutton, McKenzie & Landrigan, 2011). This report itemises the benefits of a bilingual instructional approach that includes oracy in both languages, literacy in both languages and cultural and language maintenance. These benefits are increased retention and school completions, parity of outcomes with those students for whom English is their first language by the end of year 6 and functional bilingualism. The limitations are lack of suitable teachers and resources.

Grimes (2009) claims that extensive research both within and without Australia demonstrates overwhelmingly, that bilingualism enables the comprehension of multiple perspectives which are beyond the comprehension of monolingualistic people. People who speak more than one language have more options when participating in all levels of social and economic activities. They are more employable and will advance more quickly. Overall they “tend to ‘succeed’ in both worlds” (p. 4). Grimes contrasts bilingual ability with the ability of those members of Indigenous communities who are fully competent in neither English nor their own local language. He names these people “semi-lingual” (p. 4). Semi-lingual people are frustrated as they are unable to communicate and problem-solve efficiently and so often turn to anti-social behaviour. Grimes using the research conducted by the World Bank (2006), lists the outcomes when the learner’s first language is used initially, followed
by instruction in the national language. These include better learning, better acquisition of literacy skills and higher academic achievement, greater retention in school, increased social mobility; they also include the ability for teachers to use more effective teaching methods.

Building on the work of Grimes (op cit), Graham and Gale (2011), both distinguished educators in bilingual programs in Australia presented a submission to the Standing Committee on Aboriginal and Torres Strait Islander Affairs, and was referenced in the final report titles Our Land Our Languages (Appendix L 2). The submission entitled, Language Learning in Indigenous Communities, “outlines the need for a bilingual/bicultural model of education for the Indigenous children of Australia who speak a language or dialect other than English, when they begin formal schooling” (p. 1). Graham and Gale (ibid) argue that such a model contributes to the empowerment of children and enables them to be proud of their own culture and language. They note the need for qualified teachers and state their belief in the importance of the use of the child’s first language for their development, both culturally and in their endeavours to learn English. A model of learning that excludes a child’s mother tongue ignores “the language, culture and knowledge systems Indigenous children bring with them to school” (ibid p. 2). This prevents teachers from commencing the learning pathway according to the child’s current context. Dynamic assessment of the child is therefore impossible, as the child is described in terms of their lack of skill, rather than in terms of their existing abilities. The submission postulates a model of education that develops literacy in the child’s first language, prior to doing so in English. It also advocates appropriate curriculum in all mainstream areas, as well as Indigenous language and cultural studies. This model requires teachers who are experienced in teaching Indigenous students in bilingual and bicultural schools. The valuing of the child’s first language in this manner will “demonstrate to the community that their way of being and knowing is valued” (P. 3). There is a certain frustration with the need for this submission, as these authors are familiar with developments in the 1970’s and 1980’s.

The importance of teachers encouraging Aboriginal languages to be both spoken in the classroom and used as a scaffold when learning standard Australian English (Christie, 1985) was prevalent in the 1970’s. The short film, Not to Lose You, My Language made in 1975 and directed by Greg Reading, depicts the bilingual education program at Milingimbi, Yuendumu and Yayayi in the Northern Territory. This program was authorised by the Australian Department of Education. It demonstrates the fledgling programs, where students were first taught to read and write in their Aboriginal language. Both Aboriginal language and English were used in the classroom as appropriate. Stories told by Elders were written in their language, to be used by the students in the classroom. Teachers and linguists working in the community commented on the success of this approach, where an Aboriginal teacher leads the teaching of literacy. The Aboriginal teacher stated, “The children are happy that I am their teacher”. The Aboriginal teachers exhibited expertise in providing relevant explanations to the students. At Yuendumu School when teaching the letter ‘m’, the teacher described the letter “like two anthills”. She reiterated this description when the students were attempting to write the letter ‘m’. While this program was deemed successful by both Aboriginal and non-Aboriginal people involved in all bilingual schools across the Northern Territory at the time, Aboriginal learning styles were only just being explored as an important part of the pedagogy. The director of
the film, Greg Reading, noted, “Despite the bilingual program, school is essentially a European institution, and the content of the film reflects this”.

Mandawuy Yunipingu (1999) recalls his “experience of becoming an educated, literate person, in and across two cultures, Yolngu and Balanda” (p. 1). He also notes “Balanda is the term used in the Top End of Northern Territory to refer to non-Aboriginal people” (p. 1). Yunipingu refers to this skill as “‘double power’….. the power to operate in and negotiate between two cultures” (p. 1). He describes his work in the band Yothu Yindi as the opportunity to fuse two cultures, not to oppose each other but to work together. As a younger person, he realised that Aboriginal people had to acknowledge Western ideas and accept the positive and reject the negative. Achieving this would enable Aboriginal people to maintain control of their destiny. As a student in a mission school Yunipingu says he was fascinated by the prevalent culture and wanted to learn more. He stresses “I wanted to learn ABOUT them not become one of them” (p. 2). To learn more without being assimilated was a challenge.

Gale (2014) recalls her extensive experience in bilingual education and the determination of the people who worked with her in the 1970’s and beyond, to ensure that the language and culture of Aboriginal communities was strengthened and maintained. One of those was Nancy Djambutji. In 2013 Djambutji addressed the students of Worawa Aboriginal College in Healesville, Victoria. She and Gale taught some of the grandparents of the students at Worawa in the 1970’s. Djambutji told the students:

“In 2008, the NT government made a decision that affected our bilingual program. They said we had to only teach English for the first 4 hours of each school day. This made me feel very sad in my heart. I had worked hard in our school for over 30 years to teach the children of Milingimbi to read and write in our language and to keep our culture strong. Now I couldn’t do it any-more. Lots of the Yolngu (Aboriginal) teachers who had worked in the school for a long time stopped work and the school attendance went down.

But late last year, the NT government changed its mind again. It said we could teach language but schools were not given any more money to fix things. We feel tired from this and it will take a long time to change things back again……. The students from Arnhem-land who are here at Worawa now, have missed out for the last 5 years on learning in their language and this has also affected their English literacy skills.

I believe that strong language means strong learning and that means strong culture. I want all Aboriginal children to have strong language, strong learning and strong culture and to feel proud and confident about who they are as Aboriginal people.”

Gale is optimistic and notes as inspirational, the “continuing determination, flexibility, initiative, patience, resilience, foresight and spirit of the courageous Aboriginal people who dare to engage in the Education space today” (p. 5). It is the
honouring of this history of languages education in Northern Territory communities from where Worawa students come, that inspires the Worawa Languages Literacy program in particular. It is the struggle of the Yorta Yorta people to reclaim their language that is honoured through the Second Language program at Worawa.

3.4.3.2.1.1 Language: Teaching English

The Australian Curriculum Version 7.1 Literacy strand aims to facilitate the development of:

*skills, social and psychological growth, and critical and cultural analysis.*

(ACARA, 2014a, p. 10)

Technical, intellectual and cultural resources are an integral part of everyday communication and participation in Australian society. These technical, intellectual and cultural resources include:

*fluency in the sound–letter correspondences of English, an expanding reading, writing and speaking vocabulary and a grasp of grammatical and textual patterns sufficient to understand and learn from texts encountered in and out of school, and to create effective and innovative texts.*

(ACARA, *ibid*, p. 10)

Reading, listening to, viewing and creating an expanding range of texts including different ideas, in different settings and the ability:

*to analyse and understand the philosophical, moral, political and aesthetic bases on which many texts are built*

(ACARA, *ibid*, p. 10)

are important skills to develop in a Literacy program. As well as functional literacy an understanding of literature is also integral to the teaching of English in a school.

The Australian Curriculum Literature strand is comprehensive. The document emphasises an approach to literature that demonstrates to students the ways in which literature is significant in their everyday lives. In addition, students need to analyse literary works and the key ideas and the values on which they are based, as well as making comparisons of literature from different language, ethnic and cultural backgrounds. The history of the origins, authorship, readership and reception of texts as well as the exploration of the relationships between historical, cultural and literary traditions are also important in any comprehensive program.

The desire to accelerate the progress of students who have fallen behind in the development of their literacy skills, has given rise to specific programs designed for this purpose. One such program is the ‘National Accelerated Literacy Program’ (NALP). In 2005 The Northern Territory Department of Employment Education and Training (DEET) aimed, through this program, to improve literacy outcomes for more than 10,000 students by 2008; their goal was to have these students able to participate in society as literate citizens (Cowley, 2005).
The program recommends age appropriate literary material and is implemented through a defined teaching sequence. The theoretical principles underpinning the program are student understanding of “the tacit discourse and educational ‘ground rules” (Cowley ibid p. 2) that apply in each lesson and their ability to act as a literate person. For the teacher, working in the zone of proximal development and the consequent use of scaffolding (Vygotsky, 1978) are integral to the program. The defined teaching sequence includes, Literate Orientation, either high or low order, Transformations, Spelling and Writing. These occur using one part of the book over a period of time. Cowley (op cit) reports that an assessment of the program by the Australian Council for Educational Research (2002) stated that the results were “little short of sensational” (p. 11) but acknowledges that some teachers found the prolonged concentration on a single section of a book a challenge. An evaluation of the program undertaken by the School for Social and Policy Research from Charles Darwin University (2007), lists some perceived challenges of the teachers participating in the evaluation. Among these was the concern that much of the prescribed material was too difficult for some students. Re-writing lesson plans and rethinking pedagogical assumptions were also cited as challenges.

3.4.3.2.2 Learning with Technology

Digital Technology development in the 21st century has fundamentally changed education (Gilbert, 2012), demanding significant adjustments in ways of thinking acting and learning (Hooley, Watt & Dakich, 2013). The Victorian Essential Standards (2005) acknowledged technology as a tool to use when:

1. visualising thinking
2. creating and
3. communicating.

The Australian Curriculum (2014) has further developed curriculum material in the Digital Technologies Strand of the Technologies Learning Area allowing “students to develop a comprehensive understanding of traditional, contemporary and emerging technologies” (p. 4). Creating solutions is the central idea of the Strand and students create digital solutions by defining, designing, implementing, evaluating collaborating and managing. Thinking and technologies are inextricably entwined as students explore systems thinking, design thinking and computational thinking. Pedagogy has also been transformed as student use interactive software to access information from a wide range of sources and to communicate at local, regional, national and global levels.

There are studies demonstrating the benefits to student learning from using ICT (Crook, Harrison, Farrington-Flint, Tomás & Underwood, 2010; Roschelle, Shechtman, Tatar, Hegedus, Hopkins, Empson, Knudsen & Gallagher, 2010; Hooley, Watt & Dakich, (2013) and the need to use it appropriately (Gilbert, 2102). There is a significant factor that emerges as problematic and that is the increasing divide between those people who have the latest technological devices and programs and those whose geographic or socio-economic status prevents them for accessing emerging technologies (Perlgut, 2011). This is problematic for schools and for whole
communities across Australia. Schools require reliable access to the Internet, hardware and an increasing amount of software. Anecdotally teachers complain of the “crashing” of their school system thus preventing the use of technology in their classes. Problems are often compounded for Indigenous Australians ranging from the inability to access or own devices because of financial constraints (Pekrul, 2004), geographical constraints in relation to remote schools or the fact that some may view technology as something that is not consonant with their traditional culture (Dyson, 2004). Cultural interface (Nakata, 2007), contact zone (Sarra, 2011) and the Third Space (Janz & Sumner, 2013) are relevant here in that opinions are likely to be formed according to the social environment of individuals and communities.

In 2012 Victoria University in conjunction with the Catholic Education Office, Melbourne conducted a study to investigate whether Aboriginal students, through the use of ICT are more engaged learners, demonstrate enhanced literacy outcomes, use ICT for personal and community purposes and through this, strengthen pride in their own cultural identity. The participating schools were in country Victoria, one of which was Worawa Aboriginal College. All students received a tablet device for use in the project. The tablet device enabled mobile learning, which is valued by young people for its ability to use a variety of literacies in new ways and to place themselves at the centre of their learning (Hooley et al., 2013). Because of this “it is hypothesised that mobile technologies are conducive to facilitating student engagement and improving literacy outcomes for Indigenous students” (p. 24). Relevant for this case study is the data concerning Worawa Aboriginal College where “[a]ll parents agreed that iPads had been a popular and intuitive medium for learning, helping children to be more self-directed and curious” (p. 57). They reported that their children wanted to read on the iPad, simply because it was new technology. The teacher David, integrated the use of iPads with authentic activities including the exploration of “new ways of telling stories, composing and singing songs, and opened up opportunities for sharing and preserving Indigenous culture” (p. 53). Consequently the research team witnessed the ability of the iPad, if used effectively by the teacher, to facilitate Indigenous ways of learning. The sharing and collaboration, intrinsic to learning with technology enabled the cultivation of friendships both within and without the school.

Hooley (2009) suggests that worldwide evidence demonstrates that a variety of technological devices are used by Indigenous people. He postulates that in both Indigenous and non-Indigenous cultures people value personal authority and autonomy provided by technological devices. They also value the communication and information enabled through this medium and in the name of “educational reconciliation” (p. 60) all people in Australia should have equal access to technology. This understanding concurs with the recommendations from the study (Hooley et al., op cit), which include schools providing access to technology for all Aboriginal students, the provision of professional learning for teachers of these students and the respectful inclusion of parents and communities in the technological learning process. Perlmuter (2011) is adamant that “we must commit to 100% inclusiveness, because if we aim anywhere lower we are running the risk of creating a second class of citizens and whole communities that has the potential to become divorced from social, civic and economic engagement with the rest of Australia” (p. 4).
3.4.3.2.3 Mathematics and Numeracy

The Australian Curriculum: Mathematics Version 7.1 aims to ensure that students:

- are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens

- develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in Number and Algebra, Measurement and Geometry, and Statistics and Probability

- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.

(ACARA, 2014b, p. 3)

While these aims may be endorsed by teachers of Aboriginal students, the teaching of mathematics in an Australian Aboriginal context is acknowledged as problematic as the pedagogical approaches taken by teachers in most Australian schools do not address the needs of Aboriginal learners (Howard & Perry, 2005; Perry & Howard, 2008; Matthews, Howard & Perry, 2008; Hooley; 2009; Siemon, 2009; Morris & Matthews, 2011). Aboriginal students learn best when they have a positive relationship with their teacher and when learning experiences are ‘hands on’ and culturally relevant (Matthews et al. op cit). The sense of belonging created by positive relationships enables students to demonstrate the skills they possess (Matthews et al. ibid). The context of the Aboriginal student must be taken into account when developing curriculum and this is not the norm (Howard & Perry, 2005; Matthews et al., 2008; Hooley; 2009; Siemon, 2009; Morris & Matthews, 2011) particularly if “the language of instruction is not the language of the community and typical assessment tasks rarely, if ever, provide an accurate assessment of student thinking” (Siemon, 2009, p. 223).

There are some significant approaches that address the issues surrounding lack of motivation and attentiveness, resulting in the apparent unwillingness to learn. The Mathematics in Indigenous Contexts project (Perry & Howard, 2008) used features of the land such as trees to develop relevant numeracy activities for Aboriginal students. They report that this built community capacity in each site of the project. The importance of engaging the Aboriginal community is also emphasised in the description of a three- year research project in Indigenous mathematics conducted in the Northern Territory (Siemon, op cit). Two respected community elders, grandmothers who had been teachers were worried about succession planning and so prompted the project. The probe tasks developed by the research team were designed to assess student mathematical thinking with specific instructions for those using them with groups of students.

Another project Make It Count is a project that is part of the Australian Government’s Closing the Gap initiative. One case study associated with this
initiative describes a teacher’s reaction to his own mathematics education (Morris & Matthews, 2011). As the teacher found this approach counter-productive he was determined to find a new approach for his students. Being a teacher of visual arts he decided to teach numeracy through this area of learning. He used the golden ratio in the context of pieces of art to find meaningful ways of teaching numeracy to his students. Another approach in the same project described the use of Aboriginal dance. Working in groups, students used mathematical equations to create dances. Student response was very positive, as they understood both the mathematical and cultural relevance. These approaches demonstrate the change that is necessary in “the actual day-by-day, or hour-by-hour techniques that teachers apply in all schools” (Hooley, 2009, p 131).

Hooley (ibid) recommends the integration of mathematics into science and the consequent inquiry into “quantities, patterns and relationships that occur throughout the physical and intellectual zones” (p. 65). He addresses the cultural dilemma with a description of Ethnomathematics, a philosophy of mathematics evident in parts of the world other than Australia. This philosophy discards the “assumption that Plato lives on and that mathematics is a timeless truth that holds all over the world” (ibid p. 223) by acknowledging the value of Indigenous knowledge and adopting flexible curriculum arrangements and forms of assessment that reflect these. This requires a major shift in thinking of educators as it requires an understanding that “mathematics is socially and culturally constructed” and “mathematical knowledge can arise from human experience like any other knowledge” (ibid p. 131).

A critical approach to the teaching of mathematics for Aboriginal students is essential if change is to occur (Hooley ibid; Matthews et al., 2008). Matthews et al. identify seven constructs required to be evident in the development of mathematical curriculum for Aboriginal students. These are:

- social justice
- empowerment
- engagement
- reconciliation
- self-determination
- connectedness and
- relevance.

They analysed five mathematical programs:

1. Count me in
2. Too Indigenous
3. Counting On
4. Mathematics in Indigenous Contexts K-6 and 6-8 and
5. WII GAAY

They found that the constructs of reconciliation and self-determination were not evident in the development of any of the projects. They note that this will hamper the effectiveness and ownership of the programs in Aboriginal communities. Relevant here are the norms of society as they are reproduced in schools. These must be altered...
if mathematics is not to be the property of the dominant society only and the results of Aboriginal education to be emancipatory (Hooley, *op cit*).

3.4.3.2.4 Science Education

“Science is a dynamic, collaborative and creative human endeavour arising from our desire to make sense of our world through exploring the unknown, investigating universal mysteries, making predictions and solving problems” (ACARA, The Australian Curriculum: Science Version 6, 2014, p. 3). The Australian Curriculum presents a document acknowledging that in studying science, students come to understand that much of science is contestable and under constant revision and develops as evidence becomes available (ACARA *ibid*; Hooley, 2009). Contribution to culture and society are reasons for studying science. Science too has intrinsic value as students, “experience the joy of scientific discovery and nurture their natural curiosity about the world around them” (ACARA, p. 3). This results in them becoming more and more scientifically literate. Conceptual teaching is encouraged by the inclusion of overarching ideas including, “patterns, order and organisation; form and function; stability and change; systems; scale and measurement; and matter and energy” (ACARA *ibid* p. 3).

If curiosity is not only to be aroused but satisfied at least to some extent, inquiry skills are required to be part of the curriculum. These skills, questioning; planning and conducting experiments and investigations based on ethical principles; collecting and analysing data; evaluating results; and drawing critical, evidence-based conclusions are incorporated into each year level of the curriculum and provide the vehicle for discovering knowledge in the recognised sciences, biology, chemistry, earth science and physics. Inquiry in science is essentially investigation (Haury, 1993; Spencer & Walker, 2011) and in investigation students work in a similar manner to scientists. Often the non-inquiry format used when students conduct an experiment, that of teacher explaining the point of the experiment before the students complete the process, is confused with true scientific investigation (Walker *ibid*).

While a comprehensive and inquiry-based approach to science education provides a focus on science literacy and brings the ideal closer to reality as desired by Hackling, Goodrum & Rennie (2001), Hooley (2009) alerts educators to the fact that “it is inappropriate to attempt to design a national or state-based model of curriculum that is applied to all locations in exactly the same way” (p. 83). Hooley presents from the perspective of Indigenous Australians arguing that the philosophy underpinning curriculum design particularly in mathematics and science needs to change and become inclusive of epistemologies other than the western scientific. He suggests that, “Mother Earth constitutes a major and perhaps linking concept in the theories of Evolution and the Dreaming” (p. 70) as connection with the land and learning in the context of the land is congruent with an Indigenous worldview and ways of knowing. Through this, cultures may be united in their quest for scientific understanding. Ogawa (1995) and Aikenhead (2001) describe a process for such a cross-cultural approach.

“A cultural approach to science education recognises that learning Western science for most Aboriginal students is a cross-cultural event” (*ibid*, p. 5). Ogawa (*op
Aikenhead identifies stages in the process in science learning for Aboriginal students. These include:

1. reflection on their own understanding of their world both physical and biological
2. coming to know the common understanding of these predominating in their communities and only after negotiating this
3. the introduction to the principles and norms of Western science.

Aikenhead understands that this approach develops cultural identity and self-esteem and that the role of the teacher is paramount in students successfully completing this process. The teacher must express explicit understanding of an Aboriginal worldview and the manner in which this worldview connects to the everyday experiences of Aboriginal students. A valid curriculum is built on students’ personally and culturally constructed epistemologies. Aikenhead also argues that it is also helpful if the teacher is able to locate scientific knowledge in an historical context for emancipatory purposes. He presents appropriate units relevant for Canadian schools.

Smith (2007) argues that ecoliteracy must be a part of science education in all schools because of “the severe degradation of the planet that threatens the very continuation of life on earth” (P. 1). The third Strand in the Australian Curriculum is Science as a Human Endeavour is relevant here, as in this strand students have the opportunity to relate knowledge and skills to the great achievements of scientists over time and particularly in the contemporary local, national and global world. This Strand plus the two Cross Curriculum Priorities: Aboriginal and Torres Strait Islander Histories and Cultures and Sustainability provide ample opportunity to present a cross-cultural view of science to students, so all become ecoliterate.

3.4.3.2.5 Learning in and through the Arts

“The Arts have the capacity to engage, inspire and enrich all students, exciting the imagination and encouraging them to reach their creative and expressive potential” (ACARA, Australian Curriculum, The Arts, Rationale, 2014 p. 4). This statement encapsulates the wide range of thinking about the Arts that is evident in the literature (Gardner, 1993; Fiske, 1999; Roundell & Vargas, 2003; Emery & Flood, 2003; Jeanneret, 2004; Crowe, 2006 & 2006a; Martin, Mansour, Anderson, Gibson & Liem, 2013). In addition there is a body of literature that links achievement in the Arts to achievement in other areas of learning, particularly those designate as ‘more academic’ (Livermore, 1999; Jenson 2001; O’Toole, 2006; Crowe, 2006 & 2006a; Martin et al., 2013; Williams, 2014; Murphy, 2014). As demonstrated by the references these two approaches are not mutually exclusive and both are often used to provide and justify meaningful learning experiences for students.

Learning in the Arts is often a divisive issue in schools as teachers compete for time, in what is regarded as an overcrowded curriculum. When embraced, the Arts are “able to provide children with unique and multiple ways of exploring, forming, expressing, communicating and understanding their own and others ideas and feelings” (Jeanneret, 2004, p.4). Students in the Arts are also encouraged to ‘have a
go’ at learning and so they are not afraid to make mistakes (Crowe, 2006a). Consequently learning through mistakes is a reality rather than a myth. Students are challenged through the Arts, as problem-solving is a fundamental element in any arts program (Aland & Darby, 1998; O’Toole, 2006). Instead of telling students what and how to think, the Arts engage their minds to sort out their own reactions and articulate them through the art form (Fowler, 1994). Self worth and self-esteem are created through participation in the Arts (Crowe op cit; Martin et al. op cit) and students also develop a greater understanding of their emotions, values, cultural beliefs to further develop their sense of identity (Australian Curriculum, The Arts, 2014) and become active participants in society rather than mere observers (Fowler op cit). All art exists in a cultural context and Robyn Archer encapsulates these understandings in her statement, “art is the fabric of life” (Archer, ABC Channel 2, 2104).

Through the process of engagement in one or more art forms, students have a sense of accomplishment and exhilaration and work with purpose and energy. They are active participants in their learning and are absorbed in exploring, discovering, imagining, creating and learning (Crowe op cit). Tomlinson (2014b) maintains that involvement in a performing arts production enables “learning that ‘sticks’” (p 88). She says that students through the experience become autonomous, competent and connected, which are the three key elements leading to self-motivation and excellence.

Teachers planning units of work in the Arts use many of the skills articulated in the Australian Curriculum, General Capabilities (ACARA 2013). These include the critical and creative thinking skills: Imagine possibilities and connect ideas, Clarify ideas, Consider alternatives, Create innovative solutions, Seek solution and put ideas into action, Transfer knowledge into new contexts, Invite alternative opinions, Appreciate diverse perspectives, Give and receive feedback, Reflect on processes and the Personal and social capability skills, Work collaboratively and Work independently. Becoming literate with a focus on multiliteracies is enabled through the Arts, as art forms are modes of communication (Livermore, 2003). The literacies include media (Livermore, 1999 & ACARA op cit; Quinn, 2003), visual (Emery & Flood, 2003), dance (Buck, 2003), music (Barrett, 2003) drama (Pascoe, 2003). Multiliteracies include functional, critical and creative literacy and schools need to recognise the contribution of the arts to the development of literacy beyond the conventional to the contemporary (Pascoe ibid). Overall, there is significant evidence that learning in the Arts if embraced for its intrinsic value, is an asset for learning in any school curriculum.

Value of inclusion of The Arts in the school curriculum is often extrinsic. In this case inclusion is related to the restoration of the love of learning, school attendance, school retention rates and connection with the real world of theatre and the arts (Fiske, 1999; Martin et al., 2013). Fiske (op cit) says that students of low socio-economic status benefit more from engagement with the Arts than students from a higher socio-economic status. The Arts is a discipline as it is an epistemology and is therefore brain-based (Jensen, 2001). Jensen demonstrates the manner is which each art form stimulates brain function. He relates positive achievement in each art form to positive achievement in another area of learning for example, achievement in music to achievement in mathematics. In addition he understands that music enhances emotional intelligence, although he acknowledges that some exposure to music may
have a negative affect on emotional maturity. Bodily systems are also affected by music and the kinaesthetic arts. Links to academic engagement through engagement in the arts, particularly music and theatre (Rose-Krasnor, Busseri, Willoughby & Chalmers, 2006) and through general participation (Marsh & Kleitman, 2002; Catterall, Dunais & Hamden-Thompson, 2012) are further established by empirical studies and demonstrated in strategies such as the Wannik Dance Academies for Koori girls in Victorian government schools commenced in three secondary colleges in 2010.

Student involvement in the arts often extends beyond school boundaries to include home and community (Martin et al., 2013) in “an ecological context” (p. 709). In the study, The Role of Arts Participation in Students Academic and Nonacademic Outcomes: A Longitudinal Study of School, Home, and Community Factors, Martin et al. (ibid) acknowledge the “connections between individuals and their ecological settings: (p.709) and in doing so evoke the understanding of the effect of community on the connectedness of the individual expressed by Bronfenbrenner (2001; 2005). The study researched the arts ecology of the 643 elementary and high school students, in Grades 5 to 11, from 15 schools over a period of two academic years. They aimed to discover the effect on positive youth development and academic outcomes by participation in school and out-of-school arts programs. Academic outcomes included motivation, engagement and educational resilience. The non-academic included self-esteem, life satisfaction and sense of meaning and purpose. The findings included that “in-school arts tuition was associated more strongly with academic outcomes than nonschool factors, including external arts tuition” (p. 722). This study also identified significant school, home, and community-based arts participation factors predicting nonacademic outcomes in self-esteem and life satisfaction. Consequently the researchers concluded that participation in the arts is a viable option in the school curriculum without relying on academic outcomes to justify this inclusion. The study also found that quality of participation is paramount. There was an acknowledgement of the fact that all data collection was quantitative and because of this limitation, further qualitative research would “illuminate why and how the various arts participation factors are associated with youth outcomes (p. 724).

Davis et al., (2001) reporting on a project researching the involvement of Aboriginal women in art in order to improve their physical health, states, that from a therapeutic perspective “art provides a concrete example of inner life that reflects the unity of emotional and spiritual life, which cannot be separated from physical health” (p. 2). Davis says that hope, confidence in self and insights into the daily challenges of life are enhanced through engagement in art. For Aboriginal people, art connects with history, culture, their sense of identity and self-concept; important themes in life are narrated through art, themes that shape past, present and future living. Through art people are connected to their specific community. Significant too is the ability of artistic expression to enable the artist to discover inner resources that engender resilience in both the individual and community. Davis understands involvement in art to be especially significant in Australia as Australian Aboriginal people are striving to “reclaim their cultural identity” (p. 3). In art, both traditional and contemporary Aboriginal culture are expressed, and she considers “they would provide an excellent tool for bridging the gap between how Aboriginal people used to live and how they need to live now” (p. 3).
3.5 Definition of Learning

Education is essentially concerned with the education of the whole child physically, spiritually, intellectually, morally, socially and emotionally by the development of holistic approaches to curriculum. For the purposes of this project, we understand learning, in enactivist terms is a complex co-emergent process of holistic development enabled through the construction of meaning, taking place within a community that is dynamic and robust in adapting to changing circumstances. We also understand that the purpose of learning is to continue personal, social and cultural narratives.

After reviewing the literature, for the purposes of this project, the definitions of the key concepts as follows:

1. Culture as the characteristics of Aboriginal people defined by their connection to people and place, manifested in a contemporary context.
2. Connectedness as a sense of belonging to a learning community.
3. Empowerment as the ability to act with confidence in order to direct one’s own life within the context of a learning community.
4. Learning as a complex co-emergent process of holistic development enabled through the construction of meaning, taking place within a community that is dynamic and robust in adapting to changing circumstances.

4. Conclusion

As demonstrated in this Section, in order to understand culture, connectedness, empowerment and learning, it is necessary to understand different worldviews and the concepts of power and the relationships of power that are inherent in these.

This understanding enables the relevant exploration of various aspects of connectedness, as these exist in the context of a particular worldview and its understanding of power. “Good teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subjects, and their students so that their students can learn to weave a world for themselves” (Palmer, 1998, p. 11), encapsulates the empowering connectedness, possible through the involvement of students, staff, parents and community members in developing empowering pedagogies for students in a democratic environment.

Adults are placed in a strategic position, enabling them to create a learning environment that connects and empowers themselves, their students, students’ parents and the whole community. The creation of this environment is essential, as only then is learning that encompasses the totality of human being, able to evolve in the context of cultural narrative.
The diagram in Figure 2.4 demonstrates the interrelatedness and, simultaneously, the discrete nature of culture, connectedness, empowerment and learning. This is a constant reminder that interdependence is fundamental. It is also a reminder of the impossibility of any attempt to isolate each concept without reference to their interconnectedness.

Figure 3.6 Key Concepts in Context and Relationship