CHAPTER 3: LITERATURE REVIEW

The literature review relevant to this study is presented in three parts: the first part concerns South African energy policy and environmental issues, the second with learning theories and perspectives, and lastly, my personal philosophy of education.

3.1 ENERGY AND ENERGY POLICIES IN SOUTH AFRICA

A significant article reviewed for the purpose of this study is by Spalding-Fetcher (in NER, 2002). It focuses on Energy and Energy Policies in South Africa. The South African Energy Sector was, and still is, at the centre of the country’s development. The provisions of the electricity supply industry during the twentieth century were triggered by the galloping mining industry.

During the apartheid era, little attention was given to people living in the rural areas. Today, with the new democratically elected government in place, the focus has shifted to a mass electrification programme of all rural areas as well as making energy services more affordable for the poor. The World Summit on Sustainable Development (WSSD), in which South Africa and the international community participated, looked at the role of energy development in relation to economic and social development. Serious attention was attached to the production of electricity, how it is generated and distributed, which in turn contributes to local environmental degradation (air pollution) and global environmental problems (global warming). Nonetheless, the government’s first priority to provide electricity to the majority of the poor remains a big challenge.
During the last decade former apartheid national policies were reviewed and replaced by the new government’s values of democracy, development and empowerment, with White Papers and new legislations across all sectors. For example, in 1998, the Department of Minerals and Energy (DME) released the White Paper on Energy Policy, which entailed a broad set of policy objectives, classified under five main themes: increased access to affordable energy services, improving energy governance, stimulating economic development, managing energy-related environmental impacts, and securing energy supply through diversity. The DME also introduced a low-smoke fuel programme to minimise indoor air pollution.

Many transformations in the Energy Sector in South Africa occurred shifting from the apartheid era’s emphasis on energy security to major concerns about access to affordable electrical energy, economic efficiency and environmental sustainability. The initiation of the Reconstruction and Development Programme (RDP) in 1994 was coupled by crucial economic, social and environmental goals, but aimed particularly at poverty alleviation, service provision and redistribution (NER, 2002). Through the RDP programme, more than four million houses were electrified by 1991, and a further 3.4 million by 1994.

### 3.2 LEARNING THEORIES AND PERSPECTIVES

Since there is a strong ‘sense of community’ in the Shitlhelani village, social theories and theories that relate to collaborative learning are the main underpinning themes. The spirit of *ubuntu*, a Southern African term for sharing foods, caring for each other during bereavement and being in harmony with each other prevails in the village (Mubangizi, 2003). According to Voss (1997:7), rural community members describe their community’s success as culminating from ‘teamwork’, ‘working together’, ‘support for each other’, ‘everybody pulls together’, ‘people band together on a project’,
‘friendly’, ‘spirit’, ‘grassroots community action’. This concept is further explained by the belief that the sum of the parts is more important than the individual parts (Coleman, 1988). Understanding this notion is particularly important if electricity is to be managed collectively as a resource that can help to change environmental practices.

3.2.1 Social capital theory

The social capital theory has gone through many transformations and interpretations depending on people and communities in which theorists work. For example, Putnam (1996:34) defines social capital in terms of community development and alleges that social capital is realised by individuals and encompasses ‘features of social life networks, norms, trust – that enable participants to come together to pursue shared objectives’. Essentially, social capital refers to a society where the interests of people are equally shared, it is separate from the economic and power relations, and is based on the assumption that social networks are win-win relations and individuals’ interests are similar to group’s interests.

Loury (1977), Bourdieu (1985) and Coleman (1988), however, argue that social capital is not embedded in an individual but in people’s social relationships. Communities are products of complex sets of socio-political and economic relationships, and are judged by outcomes not because of the attributes of the people within them, but because of a complicated set of power relationships both internally, within communities and externally between people in the communities and the rest of the world. Social capital for community development constructs social networks for people to realise greater control and power over the flow of capital that improves communities (De Filippis, 2001). Interestingly, Bourdieu’s concept of social capital differs somewhat from that of Coleman’s (Bourdieu, 1985). Bourdieu contends that
social capital perpetuates the maintenance of the status quo - the production of classes and class divisions, and claims that social networks and relationships are not disconnected from capital, that is, economic and power relations. The production and reproduction of social classes is due to different access to capital and communities that lack coherence from society’s collective interests may actually hamper economic and social development (Portes and Landholt, 1996). In other words, economic power is regarded as a personal asset that provides many advantages to communities. In the context of this study, the Shitlhelani community is poor and marginalized - most adults in the village are migrant workers in the factories and mines in the Gauteng Province. The Shitlhelani community thus does not have economic power linked to the possession of durable networks of more institutionalised relationships.

My own perception of social capital theory is that it recognises the existence of social networks and learning within these networks and can help us understand how to develop those social networks and support learning within them. Since the behaviour of one person is often integrally linked to the actions of another, the introduction of a new technology like electricity cannot be seen in isolation of the broader social context within which it is introduced i.e. the social context in which people live, learn and work, and of course use the resource of electricity. As Allen (2001:1) succinctly points out, ‘social capital can be thought of as the framework that supports the process of learning through interaction’. Learning about electricity in Shitlhelani is likely to involve social interaction because what people learn (or don’t learn) about electricity will affect others who live in that community - positively or negatively.

Building social networks and promoting social commitment in a community is conducive to learning. Putnam (2000:319) states that ‘where trust and social networks flourish, individuals, firms, neighbourhoods and even nations prosper’. Developing social fabric requires trust and tolerance amongst the
community members. Fukuyama (1995:27) defines trust as ‘the expectation that arises within a community of regular, honest, and co-operative behaviour based on commonly shared norms’. When there is trust and cohesion in a community, quality learning can take place. Furthermore, social networks are important in attempting to understand how to change environmental practices that are, by nature, collective practices. Allen asserts that besides fostering social networks and information exchange needed to achieve collective action, social capital also sustains ‘a social and institutional environment that is ready to adapt and change’ (2001:1). This is important if electricity is to be managed as a resource that can help to change environmental practices, in particular, to prevent deforestation and forest fires.

3.2.2 Collaborative learning theory and learning communities

In the 21st century, there has been a shift in focus and emphasis from individual learning to learning collaboratively as part of a community (Kilpatrick et al., 2003). Individual learning has been described by Piaget’s theories of development where a learner is responsible for the construction of his own knowledge (Feldman, 2000). Collaborative learning however relates closely to the ideas outlined above. To help a community change the ways they do things (e.g. destructive environmental practices), they need to learn to work together. Collaborative learning provides an opportunity for open dialogue and discussion about concepts related to deforestation and environmental issues for example. Learning concepts requires deep processing activities, such as the active use of prior knowledge, the recognition and acknowledgement of problems, and attempts to look for meaningful relationships. The collaborative concept elicits a negotiation process that is characterised by asking and answering questions, resolving disagreements, and co-constructing meanings (Boxtel, et al, 2002: 2). In this way, collaborative learning partnerships are formed which support the
development of ‘learning communities of common purpose’ (Falk and Kilpatrick, 2000; Larrivee, 2000; and Kilpatrick, et al., 2003). People working at different levels within a community are encouraged to co-operate to improve their communities educationally, socially, economically and environmentally.

Collaborative learning also supports the development of ‘learning communities’ (Falk and Kilpatrick, 2000; Larrivee, 2000) and “communities of common purpose” (Kilpatrick, et al., 2003). A learning community addresses the needs of the community through partnership and uses the strengths of social and institutional relationships to bring about cultural shifts in perceptions of the value of learning (Yarnit, 2000:11). Learning communities use learning as a way of promoting social cohesion, regeneration and economic development involving all parts of the community. Kilpatrick further states that learning communities not only facilitate the sharing of knowledge, but have the potential to create new knowledge that can be used for the benefit of the community as a whole and/or its individual members.

3.2.3 Communities of Practice

The shared interests within learning communities are similar with those in communities of practice. Members of a learning community share interest in a variety of outcomes ranging from economic development of their community to the educational development of their children. Kilpatrick (2003) maintains that a community of practice is characterised by individuals with common expertise attempting to resolve a situation that poses danger to their future. In other words, shared interests are those that are relevant to individuals as well as the social group to which they belong. Through communities of practice, ‘knowledge is commonly socially constructed, through collaborative efforts toward shared objectives, or by dialogues and challenges brought
about by differences in persons’ perspectives’ (Pea, 1993:48). Participation in communities of practice is both a kind of action and a form of belonging as it shapes not only what individuals do, but also who they are and how they interpret their actions. Wenger (1998) states that for a group of people to form a community of practice they have to engage and acknowledge each other as mutual participants, and involves the negotiation of identities. Through active participation, people are always engaging in which may possibly transform their worldviews and direct their action.

3.2.4 Situated learning

The theory of situated learning indicates that learning is inherently situated in a social context (Lave and Wenger, 1991) and focuses on two important issues: ‘legitimate peripheral participation’ in which novice or unqualified learners (newcomers) are accepted as potential members of the community of practice; and learning as a socio-cultural phenomenon, i.e. learning cannot be separated from a world of action and social process which encompasses ways of thinking, perceiving, problem-solving, and interacting.

The community of practice is where the learner or newcomer becomes involved as an apprentice and begins to assume tasks. The newcomers are initially on the periphery of the community of practice, however through ongoing active participation, they gradually become entrusted with more complex activities. This unintentional learning is the process of ‘legitimate peripheral participation’ as learners tests their ability to assume roles and responsibilities. In this approach to situated learning, newcomers acquire the knowledge and skills by actually ‘doing’ and applying the knowledge in the context of real-world challenges as opposed to an individual acquiring general information from a decontextualised body of knowledge.
3.3 MY PERSONAL PHILOSOPHY OF EDUCATION

Philosophically, I align myself with both a progressive and a humanistic approach because these approaches have common features relevant to the proposed study. The former focuses on the individual's growth and development as the main aim of adult education, while the latter concentrates not only on inculcating self-actualising and responsible citizens, but also on how they relate to the society of which they are part. The educational aims of both approaches are based on the assumption that adults have prior knowledge or experience relevant to the issues to be dealt with in the learning process, and emphasise the total or holistic development of a human being.

The progressive approach focuses on how an individual interacts with the society and with the environment, and the learning content is usually determined by the society's needs, interests and problems. Educators assume the role of facilitators and assist adult learners in accepting their role and responsibility towards society. According to Darkenwald and Merriam's (1982), this learning perspective encourages adults to acquire the skills for physical, psychological and social survival, identify problems or issues that affect the whole society, formulate and test hypotheses about the problems or issues, and design or resolve the problem.

Furthermore, John Dewey, a proponent of the progressive education movement, also indicated that education has an important role in social reform and social reconstruction. Knowledge according to Dewey is equated with experience, which in turn creates the foundation for further learning and understanding. Thus education should also be regarded as the reconstruction and reorganisation of experience to enhance experiential learning, discovery learning and self-directed learning.
Although this research study sets out to establish whether ESKOM has provided adequate knowledge about the use of electricity and the importance of maintaining the natural environment, etc., one of the spin-offs will be to determine whether education on environmental issues and practices help adults foster critical and creative thinking skills. Allowing people to reflect on their actions could also promote the development of problem-solving skills as they exchange views and come up with new ways of preventing deforestation. They might also seek improved environmental and livelihood practices as they engage in experiential and self-directed learning. If this could be achieved, one might have contributed towards the development of a whole being. In support of this, Kohlberg and Meyer (in Darkenwald and Merriam, 1982: 58) maintain that the acquisition of “knowledge” is an active change in patterns of thinking brought about by experiential problem-solving situations. Although ESKOM may argue that environmental education is not their domain, I think that assisting adult people to realise the possible health and environmental hazards could inculcate a more positive attitude towards conserving the environment.