Chapter 1: Introduction

1 Introduction

This study aims to develop an understanding of what happens when two differing tertiary cultures established on different continents, meet around a common subject in a computer-mediated situation. Due to technology the focus has changed from an ordinary classroom to a virtual meeting place, resulting in the classroom being part of the international world. Technological progress can shift the teacher's activities from delivering content to that of facilitator, ensuing interactive learning. Online courses presented from remote national and international institutions can be assessed while the student is enrolled at a local institution.

2 Background

In 2004 two Professors from the Department of Education of the University of Pretoria (UP), South Africa together with a research assistant visited Stanford University, United States of America to explore the possibilities of cooperation between Stanford and UP. The purpose of the collaboration was to introduce an existing Stanford international security course to a South African Higher Education Institution (HEI). Stanford first offered this same course in Russia in the fall 2000 to the following institutions: Amur State University, Moscow Higher School of Economics, North Ossetian State University, Petrozavodsk State University, Saratov State University, Southern Ural State University, Ural State University, Yakutsk State University, and Yaroslavl State University. The instructor was a Professor from the Center for Environmental Science and Policy (CESP) at Stanford. The course was contextualised by complementing excellent English-language articles with the best of the Russian-language articles. This was done a) to present the Russian point of view on topics sensitive to both Russia and the United States and b) to offer students a broader view than only the Stanford employed Russian instructors at each institution. The instructors held weekly seminar sessions with the students in an attempt to apply students' feedback from the lectures to the Russian context. The sessions also served as quality control and motivation for the students. From the outset it was decided that UP would play an *investigative* role, and that other South African universities will be invited to participate in the project as South African partners whose students should benefit from the course. The investigative role was to find out what happens when two differing tertiary cultures meet around a common subject in a computer-mediated situation, and why does it happen? The research assistant acted as data collector at this early stage as no researcher was available. Her instructions were to record as neutrally and accurately as possible what was happening during the first discussions - effectively acting as administrative and general support assistant. She acted as such during the UP team's initial visit to Stanford in November 2004.

During this initial visit to Stanford it became clear that positive as well as negative aspects would be part of the project. One of the first differences arose around basic terminology. Stanford and UP did not necessarily attach the same connotations to concepts such as course, component, module, programme and unit. However, both institutions had the same interpretation of the integration of teaching and research, the utilisation of technology to enable distance learning to take place, and the use of a model of local support.

Early in 2005 meetings were conducted with various role players in Limpopo and Pretoria, with the research assistant still acting as administrative and general support assistant. These role players included representatives from the University of Limpopo (UL), Tshwane University of Technology (TUT) as well as a delegation from Stanford. The purpose of the discussions was to identify possible future partners, encourage participation and to establish a potential strategic partnership network. At that stage it became clear that the cultural divide between Stanford and South Africa was presenting enormous obstacles.

The conflict arose because different institutional goals were pursued. UP wished to generate research results, Stanford wished to put into effect an externally funded project, while TUT wished to be part of an international project. Yet initially there was a mutual will to participate. A central research question thus emerged: *What happens when an international learning module, compiled by an American university is adapted for a South African HEI, and implemented in a computer-mediated situation, and why does it happen?* The project was registered at Stanford under the code-name "ELISA" (e-Learning Initiative in South Africa). This study involves the pilot phase of the Stanford e-Learning Initiative in South Africa. In short the purpose of this project was to find out what happened when two differing tertiary cultures meet around a common subject in a computer-mediated situation, and why does it happen? At this stage the administrative and general support assistant had to withdraw from the project to concentrate on her own Doctoral studies, and I was asked to continue in her role as research assistant. My instructions were to continue recording data from an epistemologically neutral perspective.

3   Theory and methodology

The organic nature of this project has to be acknowledged from the start. In the same way as the research question came into being as the project developed, I started exploring the concept of cooperation and cooperative learning at organisational level. The purpose of cooperation was to work together in order to accomplish shared goals. It became evident that the essential elements of cooperative learning at organisational level could be used in which to frame the research, resulting in a theoretical framework as illustrated in figure 1. I used the following five elements of cooperative learning to construct the outer frame of the theoretical framework: Positive interdependence,

promotive interaction, individual accountability, social skills, and group processing (Johnson & Johnson, 1994). The problem statement namely what happened in the ELISA international partnering intervention, is represented in a second frame within the layer framework. Finally, the purpose of the study, namely cooperation, shared meaning, shared goals, and commonality, is represented by the innermost frame.

Figure 1: Theoretical framework
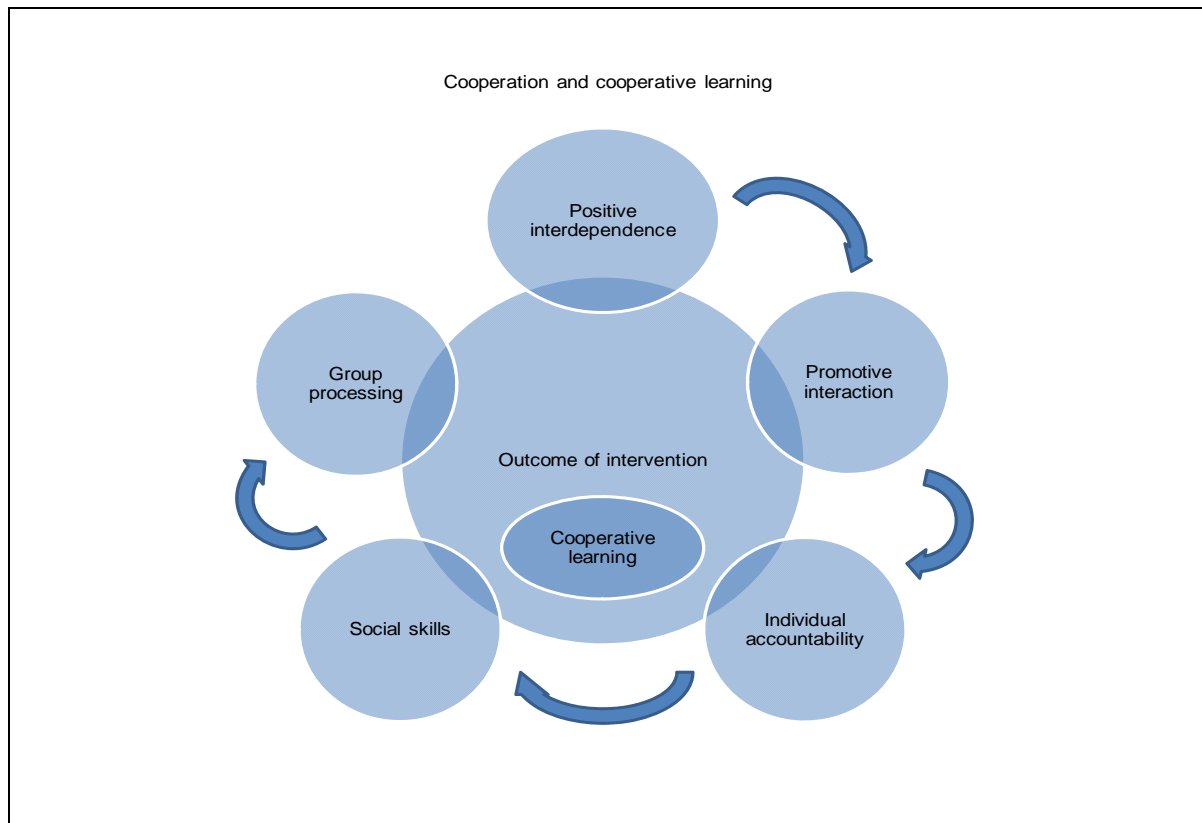
Source: Johnson, Johnson & Holubec (1994)

International outreach programmes are often characterised by various cultural questions and issues such as differences and commonalities. In order to find middle ground between the two very diverse cultures, I explored some cultural differences and commonalities. Initially the work of Geert Hofstede (1980a) was considered. Hofstede is well known in the field of computers and culture, as he investigated cultural differences in branches of the IBM corporation in 72 countries. Hofstede's view on culture is mentioned under cultural dimensions (Chapter 1, 9.6.3). However, Professor Cronjé's work in Sudan (Cronjé, 2006) showed that, while Hofstede was strong on cultural differences, he was not good at explaining commonality. Professor Cronjé used a conceptual framework to illustrate the difference between local and global role players and how to achieve commonality (Chapter 1, figure 2). At the other end of the scale Henry Giroux's border pedagogy, while interested in crossing borders,

was not strong on cultural clashes. Furthermore, consultations with a cultural expert (UP cultural expert, personal communication, October 31, 2006) showed that, whatever theoretical foundation one would choose (multi-culturalism, interculturalism, etc.) would mean that one would necessarily exclude the other, thus there was a constant "lose-lose" situation.

Differing conceptions of culture are discussed under cultural differences (Chapter 1, 9.6.3). The research was about the effect of commonalities and cultural differences on cooperative learning at organisational level. A clear African perspective was missing, as was a clear American perspective. The UL was not interested in cooperation with Stanford, resulting in Stanford, UP and TUT as main participants in the ELISA project. I started taking notes in the real-life situation by analysing all emails between Stanford, UP and TUT. All emails form part of the data as discussed under Data (Chapter 1, 12). From the 578 emails between these institutions I identified various different connotations. While taking notes I realised that the emails reflected values such as truth, justice, fairness, performance, enterprise, authority, personal power, conflict, personal insecurity, survival of self, victimisation, aggression and destruction, particular obsession, particular ability, creativity, innovation, anger, bitterness, revenge, negativity. It also included affinity, trust, selection, succession, speed of decision, influence, impulsiveness, charisma, short documentation, individualism, role division, stability, predictability, efficiency, conformity, problem solving, expertise, task orientation, enthusiasm, commitment and variety. I then coded my notes and grouped them into categories. I started to read literature on culture, cultural diversity (commonalities, contradictions and differences), educational technology, bridging the Digital Divide, the effect of globalisation on education and Higher Education Institutions in South Africa and in the United States. That is when the work of Professor Lovemore Mbigi & Maree (2005) of Zimbabwe mentioned under cultural dimensions (Chapter 1, 9.6.3) became interesting. Mbigi & Maree, in a popular work, put forward that, in African organisations several cultural "spirits" exist – such as a spirit of defiance, a spirit of revenge, a fighting spirit, etc. In his introduction, Mbigi pays tribute to the popular American writer Dr Charles Handy, and mentions the influence of his book *Gods of management* (1991), which identifies some elements of Greek mythology that still exists in current Euro-American organisations – such as the warrior, the lover, etc. Comparing the works of Mbigi and Handy it was clear that the cultural values symbolised by the African spirits and the Greek gods could match the values pertained in the emails, thus fitting into cultural dimensions Thus it was decided that a grounded theory approach, discussed under Methodology (Chapter 1, 11) would be taken to the research. I was advised to continue collecting data, while at the same time starting to read the literature on grounded theory research, culture and education. A clear step-by-step description of the grounded theory method is illustrated by Dick (2005). In essence it means that one starts in a real-life situation and you take notes, mentioned under Data (Chapter 1, 12). Then you group your notes into categories. Then you start adding theoretical literature *as data*. The aim is "to discover the theory implicit in the data" (ibid.)

_____

4 Method

Within this context then, the method that I followed was to read through the data already collected by the administrative and general support assistant (emails that she received and saved, minutes of meetings and journal entries) and to engage in "note taking". Her data only pertained to the exploratory phase of the project both in Stanford and in South Africa. I continued with the note taking as "secretarial" research assistant to the South African coordinator and TUT team leader. My data started when the course commenced on 3 February 2006. The ELISA project became a case study that I employed as a research strategy. The purpose was to gain a meaningful understanding of the situation and significance for the participants of the South African and US teams. The ELISA project was an example of a case study that provided a major account of the phenomenon of cooperation and cooperative learning at organisational level. The case study was anchored in the real-life situation of the participants and contributed to the rich and thick description of the phenomenon.

Then I thoroughly analysed the literature on culture and education as I came across it, still engaging in note taking. In the mean time I started broadening my data collection by engaging in open-ended interviews, discussed under Interviews with key participants (Chapter 1, 12.2.2). Some participants were suggested by the TUT team leader, others were selected because the emergent data suggested that they would have a contribution to make. I conducted four open-ended interviews in Stanford and two interviews in Pretoria as these contributed to the process of building towards a theory and generating a hypothesis.

I conducted the first interview with a Director of the Freeman Spogli Institute for International Studies (FSIIS); the second interview with another Director of the FSIIS and the Stanford team leader; the third interview with a Director of International Programs, Stanford Center for Innovations in Learning (SCIL); and the fourth interview with the first teaching assistant. I asked the interviewees about their role in the project, their expectations at the beginning of the International Distance Learning (IDL) program and important aspects of the program. During the interviews I continued with note taking. I recorded all the interviews and transcribed them. I conducted two interviews in South Africa. The first interview was with the administrative and support assistant to the ELISA project, and the second interview was with the South African ELISA project organiser and the UP team leader. I asked the administrative and support assistant about the origin of the project and the role that she played during the early phases, both in Stanford and South Africa. In the interview with the UP team leader I focused on the dialogue between First World universities and their counterparts in developing countries, the creation of shared meaning as well as positive and negative aspects of the study.

In Stanford I did observations and took notes during discussions with an Associate Professor of Education (Teaching); and with the second teaching assistant and asked them related questions. The

second teaching assistant was responsible for selecting the reading material for the assignments which formed part of the international program that the TUT students participated in. The first teaching assistant in her capacity of teaching assistant to the ELISA project provided valuable information on education and culture.

Observations of academic activities that I attended are discussed under Data collection (Chapter 1, 12.1). It is important to keep in mind that the virtual classroom connected experts from Stanford and educators and students from TUT to collaborate synchronously as well as asynchronously. Access to asynchronous wireless technology enabled the learners to communicate when necessary as South African time (GMT+2) differs from Stanford University (GMT-8) resulting in a ten hour difference. The Academic Technology Specialist of Wallenburg Hall, (SCIL) Stanford, accompanied me on a guided tour of this state-of-the-art technology centre. He demonstrated Stanford's use of technological devices in education. I attended a graduate Political Science lecture on Major Issues in International Conflict Management by a Professor of Political Science, Senior Fellow at the Freeman Spogli Institute (FSI), Stanford. The content of this lecture focused on international organisations and global security, mediation, conflict prevention and peacekeeping. The use of highly sophisticated technological equipment during this lecture was contrasted by a traditional board–and-chalk freshman's lecture by a Professor on explaining ethnic violence. The purpose of the attendance of these lectures was to compare different technological aspects of teaching and learning. I continued to take notes and attended a lecture on Urban Education; as well as a lecture on building a Wiki "On-Line learning Communities". All these interviews, discussions and observations took place at Stanford. The administrative and general support assistant did not do interviews but she generated data. The abovementioned data that I generated, were imported into the computer programme ATLAS.ti™ I used ATLAS.ti™ to search through the data for emergent themes and to code these.

5   Interpretation

It was hoped that the emergent themes, as they arise both from praxis, and from the literature, could be grouped into sense-making units, and thus contribute to our understanding of what happens when two vastly different cultures meet.

6   Cultural limitations

The American colleagues did not present any physical lectures in South Africa because the course was taught technologically. A limiting factor of this research is that, while the group of American presenters subscribe to a very clear "Stanford" culture, the South African participants represented Afrikaans, English, Indian, isiZulu and Sesotho cultures. Thus it was hard to find a clear "African" theory for the study. It was precisely because of this dichotomy between a homogeneous Stanford

culture, and a hard-to-define South African target population that the study became interesting, although we are fully aware that these results could not be generalized. It was my intention to provide a picture of what happened in this very interesting, very diverse case, and in so doing to contribute, from a unique angle, to the discourse of the meeting of cultures and a cooperative learning process. Stanford withdrew after one year of three. This study does not investigate why, as I believe that there is enough data for a whole new study into why relationships went down.

7   Rationale

The rationale for the study was to contribute to the growing body of stories on cooperation and cooperative learning at organisational level between HEIs in developing and developed countries. This study explored the influence of various inter-relating aspects such as cooperation and cooperative learning at organisational level, HEIs, distance-learning technologies, the effect of globalisation on education, an international learning programme, the impact of the Digital Divide, cultural diversity, and power relations in an international partnership.

Cooperation means that individuals and group members work together to accomplish shared goals (Johnson, Johnson, & Holubec, 1994). Cooperative learning in the classroom enables students to work together in small groups to master assigned material and take full advantage of individual and group learning. Five essential elements are instrumental to ensure successful cooperative learning. These elements are positive interdependence, face-to-face promotive interaction, individual accountability, social skills, and group processing (Johnson & Johnson, 1994). The abovementioned essential elements were used to explain the idea of cooperative learning at organisational level.

Distance-learning technologies could be regarded as critical links between institutions and students by linking experts and learners at numerous sites and making human and informational resources extensively available (Chute, Thompson, & Hancock, 1998). The use of technologies such as telephone conferences, video conferences, online lectures, synchronous and asynchronous communication, information and communication technologies (ICTs), WebCT6 as well as wireless personal digital assistants (PDAs) were used to explore how the distance learning experience for TUT students might be enhanced.

Globalisation with regard to education strove for the enforcement of an increasing intellectual colonised world. Developed countries worldwide strove to force their predominant cultural values and behavioural patterns on to those of the weaker developing countries (Drahos, 2002; Pogge, 2005). These so-called weaker developing countries took a stand against this tendency resulting in the question of what are the reactions of such developing countries?

An important effect of globalisation on education was the international collaboration and educational progress and development which took place. The expertise of world famous environmental specialists was available to learners in remote areas. A combination of online as well as wireless communication contributed to the dissemination of information and acquisition of knowledge as well as to the enhancement of teaching and learning. These available educational opportunities resulted in broadening the perspectives of learners, stimulating creativity, spontaneity and critical thinking. Watson, cited in Suarez-Orozco and Qin-Hilliard (2004, p. 158) summarises as follows: "Information wants to be free". The effect of globalisation on an international learning module was studied.

The Digital Divide, an expression of [some] of the differences between the affluent North and the impoverished South, reflected in education on learners with access to technology and those without. The implications of the Digital Divide on the contextualisation of an international learning module were explored.

In exploring cross-cultural transfer of learning materials from the United States to South Africa, it was significant to take Western and non-Western cultural diversity and situational reality of the South African educational environment and learners into consideration. The "Rainbow African Spirits Theory" (Mbigi & Maree, 2005) characterised potential principal cultural dimensions and values which were drawn from original African spirits. The cultural values of the predominantly Western world as symbolised by the ancient Greek Gods (Handy, 1991) were plotted against the cultural dimensions of the African spirits, resulting in evident contradictions and commonalities. The influence of some of the cultural differences between the United States and South Africa as it reflected in a tertiary educational environment was evaluated.

International partnerships between HEIs in different positions are becoming a world-wide tendency. Powerful interaction in relationships of international partnerships may become challenging at times when specific goals and needs of the participating institutions have to be served despite agreed upon mutually-beneficial cooperation. Important aspects of international partnerships include different models of distance education such as joint programs, direct marketing or franchise arrangements (Bates, 1999). Motivation for international distance education include the following: Generation of revenues, demand for programs, provision of expertise, knowledge and skills, enhancement of the institution's international profile, international participation, generation of research expansion, lodging externally funded projects, and curriculum expansion. Benefits for both partners should be clearly stated. Equality between providers and recipients depend on the international distance education model.

8   Research problem

The purpose of the study is to determine the aspects across national and cultural borders that influence the construction of common meaning across cultures.

8.1   Research question

The main research question was formulated from the issues mentioned in the background:
What happens when two differing tertiary cultures meet around a common subject in a computer-mediated situation, and why does it happen?

8.2   Central question

8.2.1   What happens when an international learning module, compiled by an American university is adapted for a South African HEI, and implemented in a computer-mediated context?

8.3   Critical questions

8.3.1   What dialogue emerges and why does it emerge?

8.3.2   How and why is shared meaning created and why is it created?

8.3.3   How do we deal with cultural differences?

8.3.4   Which aspects of the process work well and why and how can they be improved to compensate for those that do not work well?

8.3.5   Which aspects do not work well and why and how can they be improved?

9   Literature study

In order to answer the above questions I explored the following aspects namely cooperation and cooperative learning on organisational level, the effect of educational technology, the significance of an Higher Education Institution, the effectiveness of an international learning programme, the role globalisation, the Digital Divide, cultural diversity, and models of cultural dimensions, and power

relations in international partnerships. It was necessary to explore the role of educational technology as a critically important tool to participate in an international learning programme at a HEI. The investigation of the Digital Divide focused on international issues of global importance and emphasised and stimulated local content development. The study of cultural differences was essential to create cultural awareness resulting in "developing interculturally competent students" described by MacKinnon and Manathunga, as cited in Cronjé (2009, p. 69).

9.1   Educational technology

Technology became the motto of the 21st century. It afforded learners all over the world endless opportunities to communicate and enhanced their educational and technical environments. The effect of technology on education was that information was no longer restricted to a single geographical setting, instead it expanded and became a dynamic international driving force. Wireless technologies erased time and geographical constraints and enabled world-wide access between continents. Swiniarski and Breitborde (2003) accentuated the open-ended nature of access through technology. Due to wireless technologies the teaching and learning process needed not be interrupted. "School is always in session because school is always there" (Ko & Rossen, 2004, p. 3).

Technology enabled the use of learning objects, which were defined as follows: "Learning objects are elements of a new type of computer-based instruction grounded in the object-oriented paradigm of computer science" (Wiley, 2002, p. 4). Reusable learning objects such as small instructional components deliverable over the Internet can be engaged in multiple contexts in diverse learning environments.

9.2   Higher Education Institutions

Higher education in South Africa focused on future perspectives such as the preparation of universities "…to embrace the future in a global world" (Pityana, 2004, p. 2). As result of government-mandated mergers twenty-three HEIs were formed to reshape and meet the needs of tertiary education. Three former technikons merged to form TUT which consists of six campuses namely Ga-Rankuwa, Nelspruit, Polokwane, Soshanguve, Tshwane and Witbank. TUT was at that stage "the largest residential HEI in South Africa…It is well positioned to meet the higher education needs of different communities in South Africa" (Stanford team leader, 2006).

The TUT mission was to "…create, apply and transfer knowledge and technology of an international standard through cooperative professional career education programmes at undergraduate and postgraduate levels; …extend the parameters of technological innovation by making knowledge useful through focused applied research and development; and establish and maintain a strategic

partnership network locally and internationally for the mutual benefit of the institution and partners" (Tshwane University of Technology, 2005). TUT is technologically well-equipped, a feature which enables the transfer and portability of learning materials and international learning programmes. The study was conducted at the Department of Journalism, located at the Tshwane campus.

9.3   International learning programme

An International Environment Politics programme that focused on universal environment themes, identified problems and future problems and perverse outcomes, was presented. This programme consisted of sixteen lectures and was delivered by means of CD-ROMs supplemented by additional reading material selected by the Stanford academic and technical team. The lectures were also posted on WebCT6. I filled the role of participative researcher in collaboration with the technical assistant at Telematic Education at TUT. The Head of the Department of Journalism at TUT and instructional designers at Telematic Education were responsible for the finalisation and capturing of the content.

9.4   Globalisation

The effect of globalisation seemed to be that the world was getting smaller and more compressed (Tayeb, 2001). It resulted in the emergence of a "global village" (Suarez-Orozco & Qin-Hilliard, 2004, p. 16) with close contact between the countries. Increasing communication and personal exchange between countries was common knowledge. It created accumulative consciousness of other role players in the world.

It could be argued that globalisation had an indispensable and unforeseeable effect on education. This resulted in substantial significance but also in a cause for controversy. The paradox of globalisation lay in the contrasting views of this increasing intercontinental dynamic force: having noticeable positive as well as negative aspects. The proponents of globalisation accentuated the concept of multiple perspectives (Mason, 1998) to broaden cultural awareness and the potential of learners.

Globalisation required growth and evolution in order to bridge global and cultural gaps. The poor should be provided with opportunities to better their lives and bridge the aforementioned gaps. Globalisation enables learners to achieve "greater appreciation for cultural complexity and diversity" (Suarez-Orozco & Qin-Hilliard, 2004, p. xi). Seeing globalisation as an opportunity instead of a disadvantage, it could be described as "positive, promoting economic development and intercultural exchanges" (Suarez-Orozco & Qin-Hilliard, 2004, p. 7). Learners had to adapt to new technologies and blend information from multiple sources ensuring lifelong learning.

9.5   Digital Divide

ICTs are transforming the world. Digital technologies are accelerating with the revolutionary potential of causing dramatic educational, economic, social and cultural changes. Castells (2001, p. 247) accentuates the crucial role of the Internet as a tool to accomplish "freedom, productivity and communication". He points out that on the one hand the Internet is the basis of emerging technical and social development, but the Internet is on the other hand the basis of the Digital Divide, causing uneven development all over the globe. A consequence of the Digital Divide in education is learners and educators with access to technology (the well-resourced) and those without (the under-resourced).

Castells refers to the meaning of the Digital Divide as "inequality of access to the internet" (2001, p. 247). He continues to say that due to the fact that the Internet is the basis of emerging technical and social development, uneven development all over the globe is possibly the most remarkable manifestation of the Digital Divide. The conceptual model illustrated below (Cronjé, 2009, p. 70) indicates the Digital Divide between global well-resourced learners and the local under-resourced learners. Cronjé accentuates the fact that "The more global something becomes, the less its local relevance, the more local things become, the less globally competitive or useful it will be". He emphasises that increasing either of the two sides would result in the increase of the Digital Divide. To reach commonality, one has to distinguish fundamental aspects on both sides and start working from there. Professor Cronjé's work in Sudan is mentioned under Theory and methodology (Chapter 1, 3).

Figure 2: Digital Divide

_____
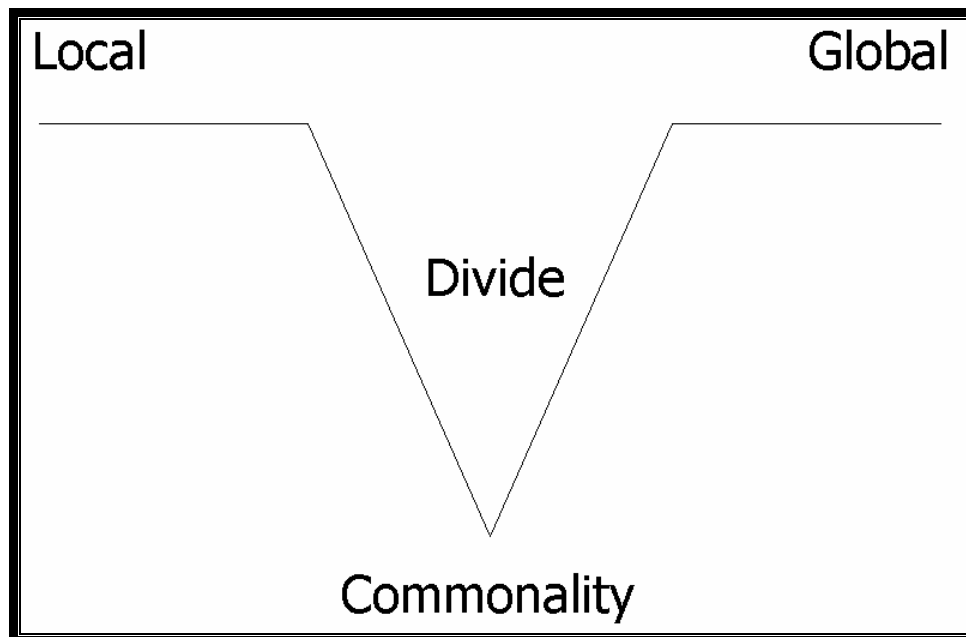
Source: Cronjé (2009)

9.6   Cultural differences

The phrase *cross-cultural transfer*, as suggested in the title of this study, necessitates an in-depth exploration of culture and its attributes. Researching the term in the social sciences retrieved a number of differing perceptions of culture. Tayeb (2001, p. 98) refers to culture as a "woolly concept" and emphasises that there is a "difficulty in achieving a parity of meaning of concepts such as culture and its components when conducting research across two or more countries".

Differing conceptions underlie the range of definitions of culture as mentioned under Theory and methodology (Chapter 1, 3). Culture can be regarded as cultivation, as tradition, as items of information, as a system of symbols, as social process, as motive and (even) as emotion (Erickson, 2001). These are all examples of the diverse possible views. Culture exists in a variety of subsets of human endeavor that together combine as the essence emanating from a variety of nations (Coertze, 1959). The following attributes are present in all cultures: a language, a social organisation, religion or a similar phenomenon, a system of technical creations, an economic organisation and activities, an educational system, a governmental or judicial system, a system of literary contributions, a philosophic and knowledge system, and a system of aesthetics, being creations in the context of art in one form or another such as sound, colour, rhythm or line that manifests itself through a variety of media (Coertze, 1959). Coffey, cited in Mahalingam and McCarthy (2000, p. 38) refers to culture as "…an aesthetic phenomenon, restricting it to the intellectual and creative activity of the so-called best and brightest of any given society". Williams defines culture as a "particular way of life, whether of a people, a period, or a group" (Mahalingham & McCarthy, 2000, p. 38).

Critical aspects common to all cultures pertain to common "cultural mindsets" (Gannon & Associates, 1994, p. 5). This concept entails that members of a particular society have the same basic ways of thinking, feeling and acting. Hofstede (1980b, p. 43) refers to culture as the "collective mental programming of people in an environment". Culture is characteristic of a number of people who share the same life experiences, and have created a number of institutions together.

Cultural experts discern between dominant or hegemonic cultures and subordinate or lower cultures (Carrim, 1998; Gandhi, 1998; Mahalingham & McCarthy, 2000; Rudman, 2003). Acculturation and enculturation theories are subdivisions of culture and entail different approaches. All human beings adopt or react to aspects of new cultures that they encounter. "Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups" (Rudman, 2003, p. 49). Enculturation involves the extent of identification with ethnic culture,

participation in cultural activities and a pride in cultural heritage (Dyer, Ramirez-Valles, Walter, Washiensko, & Zimmerman, 1996). It also involves shared values (Dahl, 2004), an awareness of traditional ethnic cultures, extolling the virtues of tradition, and the process of transferring cultural values from the senior ranks to the junior members of a particular society.

There are different schools of thought about what culture is and how the variant views impinge on society. There are, for example, the Postcolonial theory, the Critical Race theory, the Anti-Racist theory and the theory of Multicultural Education. The Postcolonial theory (Gandhi, 1998, p. ix) concentrates predominantly on "the needs of the Western academy. It attempts to reform the intellectual and epistemological exclusions of this academy, and enables non-Western critics, located in the West, to present their cultural inheritance as knowledge". The Postcolonial theory regards non-Western culture and knowledge as 'differing' from the normative 'self' of Western epistemology and rationality. The knowledge systems of areas such as Africa, India, Korea or China are not worth considering and historical and cultural conversations tend to keep a low profile. Bhabha (1994, p. 140) argues "I am attempting to write of the Western nation as an obscure and ubiquitous form of living the locality of culture". Willinsky, cited in Hickling-Hudson (2003) emphasizes that the legacies of imperialism, similar to that of colonialism, still continue within institutions, for example in Australia.

The Critical Race theory accentuates the black-white binary (Delgado & Stefanic, 2000) and it highlights racism as a normal phenomenon in American society. Rosen (2000, p. 586) argues accordingly and adds that the accomplishment of "formal equality" did not succeed to eradicate the prevalent racism that Anglo-Americans experience on a daily basis. The belief that racism is normal rather than aberrant results in the view that blacks "perceive particular events in American law and culture differently than whites" (Delgado & Stefanic, 2000, p. xvi). Their second premise underlying the Critical Race theory is that a culture creates its own social reality in customs that advance its own self-interest. Scholars construct it in the form of storytelling using words, stories and even periods of silence. A third premise is "interest convergence" coined by Derrick Bell, cited in Delgado & Stefanic (2000, p. xvii). This concept involves that white elites will promote or tolerate racial progress for blacks on condition that such progress also advances white self-interest.

The Anti-Race theory (Carrim, 1998, p. 1) involves "…a redefinition of the culture prevalent in schools throughout the country and a shift in mentality, from being racist, undemocratic and authoritarian to being non-racial, democratic and enabling". The focus moves from race to ethnicity and assimilation.

Multicultural education as defined by Delgado-Gaitan & Treuba, cited in Gay (2000, p. 194) refers to culture as "…a dynamic system of social values, cognitive codes, behavioral standards, worldviews, and beliefs used to give order and meaning to our own lives as well as the lives of others". According to Gay (2000) culture is multidimensional and changes continuously.

9.6.1 The effect of cultural differences and dynamics for the social context in South Africa

Culture is an ever-changing social construct and many different cultures exist side by side in South Africa. New cultures are constantly changing and reforming and being created within the political, technical and social frameworks "…socialization in different cultural systems produces different modes of speaking and thinking" (Gay, 2000, p. 82). Pai, cited in Gay (2000, p. 9) emphasises the fact that "…education is a sociocultural process. Hence, a critical examination of the role of culture in human life is indispensable to the understanding and control of educative processes".

Social researchers distinguish between absolute and relative cultural values. Absolute values resemble the legacy of classic philosophers such as Aristotle or Plato. These form the pillars of every society resulting in the human race having consensus of it. The controversy regarding culture involves the relative cultural values. These values emerge in modern culture and their arguments last from between ten to fifteen years. They are characterized by passing trends such as the computer era of the 1990's, currently the Digital Divide and technological development, the all-enveloping consumer tidal-wave of the multiplicity of television and video possibilities, cell phone dynamics, personal digital devices and the abounding, never-saturated recreational and the splurge of techniques to still further adapt the environment to the needs of human beings.

9.6.2 The implication of cultural differences in terms of this study

The International Environment Politics Programme, started by Stanford, contains a specific political message. The implication of this is that it is set against the background of a developed country, trying to identify issues of global importance and then attempting to provide resources, expertise and answers to a developing country. This coincides with an educational goal of globalisation of developed countries that strives to force predominant cultural values and behavioral patterns on to those of the weaker developing countries (Drahos, 2002; Pogge, 2005). These so-called developing countries take a stand against this tendency resulting in the question: What are the reactions of such countries?

It is a given that adherents of different cultures communicate differently. From the literature it is apparent that the Critical Race theory uses storytelling as a way of communication (Delgado & Stefanic, 2000). Storytelling may be described as intellectual strategy (Rosen, 2000) to convey a message. Rosen argues that "African Americans not only have different experiences, they also have different ways of communicating and understanding them…no event or text has an objective meaning, that each community of readers must determine how the text will be understood" (Rosen, 2000, p. 587). The African-American perspective correlates with the notion of the African Spirits (Mbigi &

Maree, 2005) that uses traditional African concepts to convey modern Western theories. The question arises how Stanford expects to implement the ELISA project in South Africa without taking the social context into consideration?

9.6.3 Cultural dimensions

"Culture is more often a source of conflict than of synergy. Cultural differences are a nuisance at best and often a disaster" (Hofstede, 2003, p. 2).

As has already been stated in the section under Theory and methodology (Chapter 1, 3) it is hard to find a unified theoretical point of departure for studies on culture. Since I work in the field of computers and education I decided to start my research with the work of the Dutch author Geert Hofstede, who is the most well-known theorist on culture in the world of computing. He did his research in the branches of the IBM corporation in 72 countries, and it is generally accepted that his is the largest quantitative study about culture in organisations to date (Hofstede, 1980a).

Cultural differences between nations and organisations can be interpreted against the background of different models of cultural dimensions. According to Hofstede (1980a) these cultural differences between organisations and nations are based on the following four dimensions: Power Distance Index (PDI), Individualism (IDV), Masculinity (MAS) and Uncertainty Avoidance Index (UAI). Later on he introduced Long-Term Orientation (LTO) as a fifth dimension (Hofstede, 1991).

Critiques against Hofstede's models include the contribution of Søndergaard (Enger, 2004) who aims his conclusions on the following points: "Surveys are inappropriate instruments to measure culture; unit on analysis of nations is not the best unit suited for studying culture; one company can't provide information about entire national cultures; the IBM data is old and obsolete and four dimensions can't tell the whole story". McSweeney (2002, p. 22) identified two significant problems concerning Hofstede's dimensions. "First, the generalisations about national level culture from an analysis of sub-national populations necessarily relies on the unproven, and unprovable supposition that within each nation there is a uniform national culture and on the widely contested assertion that micro-local data from a section of IBM employees is representative of that supposed national uniformity. Second, the elusiveness of culture. It was argued that what Hofstede 'identified' is not national culture, but an averaging of situationally specific opinions from which dimensions or aspects, of national culture are unjustifiably inferred".

The stance of this study is in support of the Hofstedian argument, emphasising cultural differences between people at organisational level. The images of the ancient Greek Gods can be used to

E-learning Initiative in South Africa (ELISA)

symbolise different cultural values (Handy, 1991) that are discernible in management styles in the Western world. The different cultural values are illustrated in table 1.

Table 1: Symbolisation of Greek Gods

The cultural values	The Greek Gods
Club Culture	Zeus
Role Culture	Apollo
Task Culture	Athena
Existential Culture	Dionysus

Source: Handy (1991)

Zeus represents the Club Culture, represented by the spider's web. Organisations that use this cultural form have division-based work or results as the norm. The lines encircling the centre of the web (similar to the lines on an organisation chart) are the crucial lines as they symbolise power, influence, impulsiveness and charisma. Speed of decision is an important characteristic of the club culture. Situations where speed is essential will gain from this management style. Speed is, however, not a guarantee of quality, as quality does not depend on speed but on the competence of the role players.

Selection and succession of leaders are critical variables. Empathy plays a vital role and relies on affinity and trust which are easily established between members of the same club culture. Nepotism should not be summarily disregarded; on the contrary, it can be a significant source of empathy. "These cultures, then, are clubs of like-minded people…working on empathetic initiative with personal contact rather than formal liaison" (Handy, 1991, p.22). Trust founded on personal contact is one of the main principles of the club culture. However, empathy without trust can be dangerous as it can be used against a member. A club culture values its members, invests in them and the advancement of personal contact by means of telephonic communication and travelling. Speed is important; a delay is regarded as being more costly than a mistake which can be rectified later.

Apollo represents the Role Culture, illustrated as a Greek temple that draws its power and splendour from its pillars. The pillars symbolise function and role division in the organisation. This culture accentuates the definition of the role and the performance of its employees, not their personalities. It believes that man is rational and emphasises the logical analysis of things. The main characteristics are prescribed roles, job descriptions, work-flow charts, rules and procedures that embody the organisation. The pillars are joined at the top by the pediment, symbolising the board of directors, management committee or president. Stability and predictability will ensure that the past, present and future will be the same, while technological advances will create more stability. "Individuals in the role

culture are, therefore, part of the machine…The individual is he, or she, who is slotted into it" (Handy, 1991, p.24). Efficiency is a vital component of the role culture. Change embodies a threat to the role culture and members first ignore it, followed by doing more of the same activities. Role cultures react to change by organising cross-functional cooperation in an endeavour to keep the structure together.

Athena represents the Task Culture, illustrated by a net that draws resources from diverse parts of the organisational structure in order to accentuate a specific problem. Power is centred at the interstices of the net. The organisation consists of loosely-linked, independent units with a particular responsibility within a general strategy. Solution of problems, expertise, talent, creativity and innovation are the main characteristics of the task culture. Youth, energy, enthusiasm, joint commitment, mutual respect and helpfulness add to the success and generate variety instead of predictability. Task cultures are expensive due to experts who demand their market price. The latest technologies create a temporary monopoly during which higher charges can cover the cost of the task culture. Task cultures often don't last long and failure is one of the problems that are not solved easily. "Task cultures don't easily weather storms" (Handy, 1991, p. 31).

Dionysus represents the Existential Culture which assumes that the individual is responsible for his own destiny and that a higher purpose in life does not exist. The organisation is subordinate to the individual and exists to facilitate the individual in accomplishing his purpose. Individual talents and skills are the fundamental assets of the organisation resulting in professionalism and individualism being part of this culture. Members are often young, normally talented and benefit from job security, approved fee scales, allocated influence spheres and independence. Management in the existential culture is an unpleasant task and not highly regarded. Professionals do not readily accept instructions or compromises. "Every teacher likes to be the uninterrupted king in his own classroom, just as every doctor is god of his consulting room. You enter by invitation only, criticise on request, command by consent" (Handy, 1991, p. 33).

10   Research perspective

10.1   Theory Building

The purpose of research is to understand the world and this understanding "is informed by how we view our world(s), what we take understanding to be, and what we see as the purposes of understanding" (Cohen, Manion & Morrison, 2002, p. 3). The practice of educational research can be seen through different lenses, resulting in different ontological and epistemological assumptions and methodologies. "Different people, however, view the world from different perspectives (Henning, Van Rensburg, & Smit, 2004, p. 15). Various conceptions of social reality and of behaviour exist.

11 Methodology

11.1 Research approach

The study up to now has followed a grounded theory approach to inductively generate theory. Data were collected and analysed with ATLAS.ti™ on an ongoing basis. I analysed 578 emails between Stanford and TUT resulting in the assimilation of data that indicated patterns of data. Certain concepts and a variety of categories and properties emerged as a result of continuous comparisons of incidents. Categories and their properties resulted in substantive codes or conceptual meanings. Theoretical codes (Glaser, 1992, p. 27) "are the conceptual models of relationships that are discovered to relate the substantive codes to each theoretically". Theoretical codes and substantive codes used together result in "a grounded theory that fits the data" (Glaser, 1992, p. 27). Transcripts of interviews, recordings and observation notes were also analysed and coded.

According to Bogdan and Biklen (1992, p. 201) "Evaluation research is the best-known form of applied research". Mouton (2001, p. 158) defines evaluation research as follows: "Implementation evaluation research aims to answer the question of whether an intervention (programme, therapy, policy or strategy) has been properly implemented (process evaluation studies), whether the target group has been adequately covered and whether the intervention was implemented as designed". Babbie (1998, p. 334) states that "the purpose of evaluation research is to evaluate the impact of social interventions such as new teaching methods". The intervention in this study is the international environmental learning programme. The research was undertaken to determine what happens when two differing tertiary cultures meet around a common subject in a computer-mediated situation, and why does it happen.

11.2 Project description

Developed countries worldwide strive to force intellectual colonisation on to weaker developing countries (Drahos, 2002; Pogge 2005) resulting in the predicament of how developing countries relate to this. The uniqueness of the ELISA study lay in the fact that it explored corresponding values between two differing academic cultures as point of departure. Cooperation and collaboration are multifaceted concepts that are used as tools to achieve shared meaning and shared goals. I used the ADDIE model, (Dick, Carey, & Carey 2005) to describe the project.

11.2.1 Analysis

Stanford presents distance learning programmes focusing on International Environmental Politics. In 2004 the Stanford Institute for International Studies (SIIS) and the Stanford Centre for Innovations in

Learning (SCIL) commenced the Stanford University International Outreach Program (SUIOP). The function of the SUIOP is to cooperate with international partner institutions in creating, designing and evaluating wide-ranging and suitable e-Learning programmes for Higher Education Institutions (HEIs) in specific world regions. An applied research component forms part of the outreach programmes. Stanford's newly created International Initiative is responsible for the functioning of the SUIOP. Stanford initiated collaboration between the SUIOP, TUT and UP in accordance with the Initiative's mandate. Three broad themes were pursuing peace and security in an insecure world; reforming and improving governance at all levels of society; and advancing human health and well being (Stanford team leader, personal communication, 2005).

The purpose of the Freeman Spogli Institute for International Studies is to research international issues and challenges. Its goals are as follows: "To influence international public policy with its scholarship and analysis; to transcend traditional academic boundaries and create new partnerships; to make its research available to a wide audience; and to enrich the educational experience of all members of the Stanford community" (Stanford University, 2006a). The SCIL, established in 2002, "conducts scholarly research to advance the science, technology and practice of learning and teaching. The Center brings together teachers, scholars and students from around the world to study how to improve formal and informal learning across cultural boundaries" (Stanford University, 2006b). ELISA, an international project of the SIIS, complements Stanford's renewed commitment "to help raise its international profile by identifying issues of global importance and then providing resources, expertise and answers" (Delgado, 2004). International Environmental Politics is one of the important areas that was identified and which they explored. The role players of the ELISA project are the Stanford team leader, an Associate Professor of Education, a Consulting Associate Professor, a Stanford team member, and two teaching assistants. The Stanford team leader is a Director of the SIIS Initiative on Distance Learning (IDL) Program as well a Director of SUIOP. An Associate Professor from the Stanford School of Education led this collaborative assignment in South Africa. She is an educational anthropologist and the Director of an alternative middle school. Moreover, she specialises in active learning involving learners and teachers and the influence of real-world situations to drive learning (Stanford University School of Education, 2006d).

The virtual classroom connected experts from Stanford and educators and students from TUT to collaborate synchronously as well as asynchronously. Access to asynchronous wireless technology enabled the learners to communicate when necessary as South African time (GMT+2) differs from Stanford (GMT-8) resulting in a ten hour difference. The Department of Post Graduate Studies in Education, the Department of Journalism as well as Telematic Education at TUT were the centre of attention in the project. Third and fourth year part-time Journalism students at TUT participated in the study, communicating mostly asynchronously due to working conditions and deadlines. This took place under the leadership of the following partners in South Africa as indicated in table 2.

Table 2: ELISA Project Role Players

Research status	Department	Job Description
UP team leader	Department of Education, UP	ELISA project organiser and Supervisor
TUT team leader	Department of Post Graduate Studies in Education, TUT	Research Professor at the Faculty of Education as South African coordinator of the ELISA project
TUT team member	Telematic Education, TUT	Director of Telematic Education
TUT team member	Telematic Education, TUT	Instructional Designer and Technical Assistant
UP student	Department of Journalism, TUT	Teaching assistant and PhD Researcher
TUT team member	Department of Journalism, TUT	Head of the Department of Journalism, facilitator and lecturer for the ELISA project

From table 2 it is evident that I filled the role of participant observer who is responsible for data collection, moderation of assignments and students' enquiries. I was involved in the pilot phase of the project although not in a prescriptive way.

11.2.2   Design

The research made use of an intervention design consisting of a course on International Environment Politics for Journalism students at TUT. Students were able to access fifteen online lectures on environmental issues, presented by the Stanford team as well as a South African guest lecturer who was responsible for two lectures. Five written assignments and two mini-assignments were posted on the course bulletin board and were graded by a teaching assistant and moderated by the TUT academic team. Group discussions to assess the learners' grasp of issues presented in the lectures and reading materials, were held. This took place by means of face-to-face video conferences in order to ensure interaction.

11.2.3   Development and implementation

The existing Stanford module was adapted and contextualised for use in South African HEIs. This was done by means of inclusion of curriculum by local authors, namely two lectures on contemporary political aspects such as transnational protection of biodiversity, focusing on South African peace parks. Issues included in the Stanford module may not necessarily be contextual for South Africa. Feedback from learners contributed to emphasise important aspects which was done by focusing on the wireless component of the study.

As a qualitative research design requires the researcher to be the primary instrument for data collection and analysis, the researcher will "respond to the situation by maximizing opportunities for collecting and producing meaningful information" (Merriam, 1998, p. 20). As a PhD graduate student enrolled at UP, I filled the role of participative researcher. The research component of the study took place at TUT, in collaboration with the Departments of Telematic Education and Journalism. The participative researcher was responsible for the moderation of the assignments, collection of data and to be available for student's enquiries.

The programme was conducted with a sample of fifteen third and fourth year learners of TUT, enrolled for a Journalism course. A sample of fifteen Journalism students was sufficient as there should be adhered to the principle of supply and demand with reference to the training of journalists, as South Africa does not need a large number of journalists. A computer laboratory in the Journalism Department, equipped with fifteen state-of-the-art personal computers and video-conference facilities was made available. Every student as well as the researcher received a PDA in order to respond to the assignments. WebCT6 was used to communicate and give feedback to students and video conferences were recorded. Progress was recorded and registered throughout the programme. Interviews were tape-recorded and transcribed. I took notes and reactions were documented immediately after the interviews.

11.2.4   Evaluation

The researchers used formative and summative evaluation techniques to assess the outcome of the intervention. The Stanford assistant gave her feedback promptly, discussed the assignments and presented her conclusions in a friendly way. She encouraged students constantly to report on problem areas and to discuss any implications of the programme. The assignments were graded as soon as they were submitted students were congratulated on excellent work or supported in a congenial manner if necessary. The purpose of formative evaluation is to "improve an ongoing program through continuous reporting of the evaluators' findings" (Bogdan & Biklen, 1992, p. 211). McMillan and

Schumacher (2001) state that formative evaluation is used in order to collect data to reflect on the curriculum and the programme.

The teaching assistant did summative evaluation at the end of the intervention and it will be used to report on the effectiveness of the pilot phase of the study and to make suggestions on the subsequent studies scheduled for 2007. Fourteen students completed the project and received certificates. Summative evaluation is traditionally the most common form of evaluation and used when the intervention is completed (Bogdan & Biklen, 1992). This form of evaluation is more formal, feedback does not form part of it and a final report is given at the completion of the programme.

12   Data

Data consisted of emails, project documents, transcripts of interviews, recordings, observation notes, transcripts of telephone conferences and video conferences and minutes of meetings. I took notes during all the data-collection events as mentioned under Theory and methodology (Chapter 1, 3).

12.1   Data collection

The communication between all significant parties is facilitated by means of project documents. Background information on the overview of the study, collaborating institutions, suggestions towards academic design and implementation, timeframe and research focus were supplied by the Stanford team leader in the Request to the Whitehead Foundation in the United States. This was obtained through emails as mentioned under Theory and methodology (Chapter 1, 3). Emails were used in all forms of communication between Stanford and TUT. Documents included students' "researcher-generated documents" (Merriam, 1998, p. 119) such as assignments, documentation on online chat sessions, individual meanings posted under discussions, group discussions and official grade reports. I obtained 578 emails electronically. "On-line data collection offers an electronic extension of familiar research techniques, widening the scope of data available to the researcher" (Merriam, 1998, p.128).

As mentioned under Method (Chapter 1, 4) I conducted three interviews with directors of the FSIIS and one with a member of the Stanford academic team. These included interviews with a Director of the FSIIS, Director; the Stanford team leader, Director, Initiative on Distance Learning; Co-director; and the teaching assistant. Interviews were recorded, transcribed and signed. Notes were taken during discussions with an Associate professor of Education (Teaching) and the teaching assistant. The interviews and discussions were conducted at the Freeman Spogli Institute (FSI), Stanford. I organised a focus-group interview with the TUT students on completion of the programme. The facilitator was a technical support assistant from Telematic Education.

I did observations of specific academic activities at Stanford as described under Method (Chapter 1, 4) These included the attendance of various lectures in order to compare it to the South African situation. I attended a Political Science Lecture "Major Issues in International Conflict Management" by a Professor of Political Science, a freshman seminar "Explaining Ethnic Violence" by a Professor of Political Science, a graduate lecture on Urban Education by a Professor of Urban Education, a lecture on building a Wiki "On-Line learning Communities" by a Professor of Urban Communities and teaching assistant, a tour of Wallenberg Hall, facilitated by the Academic Technology Specialist. I continued to take notes during all these activities. Observations of academic activities at TUT include six contact sessions with students, three video conferences, one focus-group interview and a contact session with the Stanford team during their visit to TUT.

12.1.1 Documents

I made use of documents which included documentation on the online chat sessions, individual meanings posted under discussions, group discussions, written assignments and official grade reports. The reason for producing documents is to gain insight into the problem being scrutinised. Documents that the students produced themselves provided rich descriptions of how they saw and reflected their worlds and the environmental issues at hand.

Documents are collected as units of data which are used for analysis and interpretation (Henning, Van Rensburg, & Smit, 2004). The purpose of documents is to assist the researcher to "uncover meaning, develop understanding, and discover insights relevant to the research problem" (Merriam, 1998, p. 133). The term "document" refers to "a wide range of written, visual and physical material, relevant to the study at hand" (Merriam, 1998, p. 112). Types of documents include personal documents (Bogdan & Biklen, 1992; Merriam, 1998) physical material and online material (Henning et al., 2004). According to Merriam (1998, p. 112) documents are "… a ready-made source of data easily accessible to the imaginative and resourceful investigator".

Students were able to use their PDAs to take photographs and select pictures to "collect, organize and sort picture files…download images, copy the files … and view the images as a slide show" (Windows, 2006b, p. 108). Photographs are indispensable to journalism students as well as to researchers "since it allows researchers to understand and study aspects of life that cannot be researched through other approaches; they echo Hine's suggestion that images are more telling than words" (Bogdan & Biklen, 1992, p. 138).

12.2   Data collection instruments

Data collection instruments consisted of the following:

12.2.1   Observation

I filled the role of participant observer and obtainer of documents as discussed under Method (Chapter 1, 4) and Data collection (Chapter 1, 12.1). Semi-structured and unstructured observation was used in order to conform to the requirements of generating a hypothesis. Semi-structured observation enabled me to explore an agenda of issues and clarify them in a less pre-determined way (Cohen et al., 2002). Unstructured observation disclosed occurrences during the contact time prior to deciding on its importance for the research.

According to Morrison, cited in Cohen et al (2002, p. 305) observations enable the researcher to collect data on:

- the physical environment
- the organisation of learners and the features of the group such as gender, age and the number of participants in the group
- the interactions taking place within the group and
- the programme setting for instance the assets and their organisation, curriculum and pedagogic styles.

Merriam (1998) adds the following:

- the nature of discussions
- subtle factors such as spontaneous activities, figurative and connotative meanings of expressions, inconspicuous physical clues and omitted actions and
- the behaviour of the observer taking down comments.

I filled the role of participant observer during contact sessions with students. Adler and Adler, cited in Merriam (1998) describe this role as a "peripheral membership role" whereby the participants will control the level of data that is revealed. I cooperated closely enough with the participants to identify with them as an insider "without participating in those activities constituting the core of group membership" (Merriam, 1998, p. 101). I used an emic analysis approach to capture the definitions of the situations as described by Silverman, cited in Cohen et al. (2002). The emic approach used the conceptual frameworks of the participants as they reported the situations as they experienced them.

12.2.2　　　Interviews

I conducted four open-ended interviews in Stanford, as discussed under Method (Chapter 1, 4). I was able to adjust the sequence in which questions were asked, altered the wording, clarified them or elaborated on them. The interviews were exploratory and conversation-like and contributed to the process of building towards a theory and generating a hypothesis.

Interviews are regarded as appropriate and significant instruments to collect data in qualitative research (Cohen et al., 2002; Henning, et al., 2004; McMillan, & Schumacher, 2001; Merriam, 1998; Mouton, 2001). In-depth individual interviews can be regarded as an appropriate method to develop a hypothesis and collect data as it enables the learner to share his ideas with the researcher. It involves "an interchange of views between two or more people on a topic of mutual interest, sets the centrality of human interaction for knowledge production, and emphasizes the social situatedness of research data" (Cohen et al., 2002, p.267).

As many learners hold the same view (Henning et al., 2004) the interview is regarded as not being exclusively objective or subjective but intersubjective (Cohen et al., 2002). Patton, as cited in Eloff, Engelbrecht, Kozleski, Oswald, Swart, & Yssel, (2002) states that the aim of interviewing is to "allow us to enter into another person's perspective … to find out what is in and on someone else's mind".

A focus-group interview focusing on a discussion topic was conducted by a facilitator and a technical support assistant from Telematic Education, TUT. Twelve journalism students participated and interacted with the facilitator and each other. According to Cohen et al. (2002, p. 288) "focus groups are contrived settings, bringing together a specifically chosen sector of the population to discuss a particular given theme or topic, where the interaction with the group leads to data and outcomes". The data that emerged from the interaction will be used to generate a hypothesis and gather feedback from the project. The outcome of the focus-group interview was validated by means of triangulation.

12.2.3　　　Discourse analysis

I used ATLAS.ti™ to interpret emails between Stanford and the South African academic and technical teams. I used coding at an early phase of the analysis to ascertain patterns and broad areas in the analysis.

Students used synchronous and asynchronous conversations in various educational environments. Due to working conditions and deadlines the journalism students who participated in the pilot study used mainly asynchronous conversations during the programme. They were encouraged to ask

questions, engage in discussions and comment on any aspects of the programme. Both the Stanford and TUT teams gave feedback promptly. Sherry, Cronjé, Rauscher and Obermeyer (2005) accentuate asynchronous conversations where "participants may express opinions, make connections between various discussions, relate the current topic to past experiences, synthesize responses of others, request clarification, or post substantive questions". These conversations form a dialogue which is an important aspect of discourse analysis. The authors emphasise the importance of dialectic conversations, discussions and design conversations as means of discourse analysis.

Discourse analysis is one of the most important data-collection instruments. The construction of meaning emphasises the action standpoint of discourse analysis. Cohen et al. (2002, p. 293) draws attention to the "three kinds of speech act" which involve the "locutionary – saying something; illocutionary – doing something whilst saying something; and perlocutionary – achieving something by saying something" (Cohen et al., 2002, pp.298-299).

According to Habermas, as cited in Cohen et al. (2002, p. 298) utterances are embodied in the "intersubjective contexts in which they are set". He emphasises the dual structure of a speech situation, namely the "propositional content (the locutionary aspect and the performatory content the illocutionary and perlocutionary aspect)" (Cohen et al., 2002, pp.298-299). Discourse analysis necessitates a sensitive researcher to interpret the nuances of language.

12.3   Data analysis

All documents pertaining to the project will be analysed. These include project documents, transcripts of interviews, recordings, observation notes, transcripts of telephone conversations and video conferences, minutes of meetings, documentation on the online chat sessions, group discussions, written assignments and official grade reports. 578 emails were analysed and coded with ATLAS.ti™ The course management system WebCT6 was used to facilitate the chat sessions, group discussions and written assignments. I used ATLAS.ti™ to analyse some of the data that I obtained from the literature study, observations and interviews and documented it. I will analyse, summarise and document remaining data that I mined from telephone conferences, video conferences and face-to-face contact.

Data analysis is an emergent process which involves all the phases of the research and was done simultaneously with the data collection process (McMillan, & Schumacher, 2001; Merriam, 1998). Data analysis will be completed in an inductive way resulting in groups and patterns becoming apparent. McMillan and Schumacher (2001, p. 462) describe qualitative data analysis as a "relatively systematic process of selecting, categorizing, comparing, synthesizing and interpreting to provide explanations of the single phenomenon of interest".

Ongoing data analysis will ensure that the data will stay focused; repetition will not occur and will not be overwhelming in volume. Merriam (1998, p. 162) states that "Data that have been analysed while being collected are both parsimonious and illuminating". According to Cohen et al. (2002, p. 77) the following aspects need consideration: "What needs to be done with data when they have been collected – how will they be processed and analyzed? How will the results of the analysis be verified, cross-checked and validated?"

I used crystallization as a technique to reflect on the research and ensure validity and reliability. "Crystallization seeks to open the analyst to data analysis, maximum experiences within the analytic style" (McMillan, & Schumacher, 2001) while Eloff et al. (2002) accentuate the deep and complex understanding of the topic provided by crystallization.

12.4   Validity and reliability

I incorporated a variety of strategies to ensure internal validity. I accomplished triangulation by using multiple methods and data sources to substantiate emerging results. I included member checks by taking tentative findings back to the informants whom I consulted. I integrated long-term observation of the phenomena under investigation by repeating my observations and requested colleagues to comment on the results, ensuring peer examination. I involved all the participants of the ELISA pilot phase in all the stages of the research and will continue with this in writing up the findings. All results will be documented and a hypothesis will be formulated.

The purpose of research is to produce "valid and reliable knowledge in an ethical manner" (Merriam, 1998, p. 198). Validity involves the concept of whether a researcher really observes what should be observed. McMillan and Schumacher (2001, p. 409) point out: "Validity of qualitative designs is the degree to which the interpretations and concepts have mutual meanings between the participants and the researcher". Slavin (1984) defines validity as the degree to which a data-collection instrument measures the concept it is supposed to measure. According to Merriam (1998) it is important to be able to trust research results in education where intervention in learners' lives take place. Trustworthiness of research results means that there will be an explanation for their validity and reliability. Maxwell, as cited in Cohen et al. (2002, p. 107) distinguishes between different kinds of validity. Interpretative validity points towards "the ability of the research to catch the meaning, interpretation, terms, intentions that situations and events, i.e. data, have for the participants". Validity and reliability imply that the research is conducted in an ethical manner. According to Kemmis, as cited in Merriam (1998, p. 200) a research study is trustworthy due to the "careful design of contexts of production for phenomenon and the processes of measurement, hypothesis-testing, inference and interpretation". This action leads to crystallization.

Chapter 2: Literature Study

1   Introduction

In Chapter one I outlined the main aspects that had been covered regarding the literature study. Chapter two will focus on various aspects regarding the CAI programme compiled by an American university and explore how the literature is used to illustrate and explain the critical questions. The research questions comprise the following: *What happens when an international learning module, compiled by an American university, is adapted for a South African HEI, and implemented in a computer-mediated context? What dialogue emerges and why does it emerge? How do we deal with cultural differences? How is shared meaning created and why is it created? Which aspects of the process work well and why and how can they be improved to compensate for those that do not work well? Which aspects do not work well and why and how can they be improved?*

2   What happens when an international learning module, compiled by an American university is adapted for a South African HEI, and implemented in a computer-mediated context?

Funded projects and grants are often an outreach from developed countries to provide expertise to developing countries (Wallsten, 2005). The ELISA project, an initiative of the Stanford University International Outreach Program (SUIOP) and funded by the Whitehead Foundation in the US, is an example of such an outreach initiative. This is due to the fact that Stanford seeks to explore the possibilities of distance education in developing countries. According to Stanford apartheid in South Africa had withheld the opportunity of tertiary education from the poor and underprivileged (Stanford University, 2006c). The purpose of the collaboration between Stanford, UP and TUT was to introduce an existing Stanford international learning module to a South African HEI.

Stanford first offered this course in Russia in the fall of 2000 to nine Russian HEIs. Various issues lie at the heart of the discussions concerning the abovementioned international learning module. These issues include a variety of interrelated aspects such as cooperative learning, cooperation at organisational level, the international Digital Divide, the Internet, Higher Education Institutions, learning technologies and the effect of globalisation on education. These play an important role in the collaboration between Stanford, UP and TUT. The effect of these aspects on the ELISA project will be explored.

2.1 The international Digital Divide

2.1.1 The north–south phenomenon

Much of the existing literature (Benton Foundation, 2000; Bernhardt, 2000; Berry, 2000; Castells, 2001; Cronjé, 2006; Hüsing & Selhofer, 2002; Van Dijk, 2006; Van Dijk & Hacker, 2003) describes the international Digital Divide as the phenomenon of citizens with access to technology (the well-resourced) and those without access to technology (the under-resourced). Hüsing and Selhofer (2002) portray the Digital Divide as "the gap between citizens from different socio-economic backgrounds with regard to their opportunities and abilities to access and use information and communication technologies". Chen and Wellman (2003) argue that there are multiple divides among and within countries.

Countries in the northern hemisphere such as North America, Europe and parts of Asia as well as Australia and New Zealand in the southern hemisphere, are regarded as highly industrialised, wealthy, have a stable governance structure and are scientifically and technologically advanced. Contrary to this, countries located in the southern hemisphere as well as some Asian countries, show a lack of development when considered on an international scale. War, famine and corruption that significantly affect the progress and prosperity of the public infrastructure are characteristic of these countries. However, the North-South dichotomy is gradually diminishing as more developing countries are striving to diminish the factors that contribute to the global Digital Divide (Ogunsola & Okugasa, 2006).

2.1.2 The Digital Divide in context and the Internet

An understanding of the Digital Divide is of vital importance in the debate on the difference between the well-resourced and the under-resourced areas. Castells (2001, p. 248) refers to the Digital Divide as "inequality of access to the Internet". Due to the fact that the Internet is the basis of emerging technical and social development, uneven development all over the globe is "perhaps the most dramatic expression of the digital divide" (Castells, 2001, p. 265). Leigh and Atkinson (2001) regard computers and Internet access as an indication of the Digital Divide. Steyart (2002) however, argues that the Digital Divide is far more complex than only the physical access to information technologies and highlights several contributing factors. Makhaya and Roberts (2003) refer to Internet usage within the affluent sections of society and concludes: "The 'digital divide' is therefore a term that could have been coined for South Africa". An awareness of the Digital Divide is imperative since the dichotomy of the well-resourced and the under-resourced is a well-established phenomenon in South Africa.

2.1.3 Factors contributing to the Digital Divide

South Africa forms part of Sub-Saharan Africa (SSA). Due to a variety of factors in SSA such as neglected infrastructures, current and recurring civil wars, political instability and turmoil, corruption, civil conflict, human rights' violations and revolutions, fluctuating economies, high unemployment rates, xenophobia and poverty, even now South Africa tends to be a safe retreat for surviving citizens of neighbouring countries. Freeman and Lindauer (1999, p. 6) argue that "If your country is riven with strife, better to pick up a gun than pick up a book". Acquired immune deficiency syndrome (AIDS) contributes to the health dilemma of the continent. This health pandemic requires exorbitant funding for healing and affects human capital negatively. Environmental factors such as droughts, floods and famine add to the distress of Southern Africa and pressurise already malnourished citizens from neighbouring countries to seek refuge elsewhere, often in South Africa.

Available sources (Castells, 2001; Eng, Maxfield, Patrick, Deering, Ratzan, & Gustafson, 1998) confirm that a multitude of factors contribute to the international Digital Divide. The most important factors comprise the following: Income differentials, lack of suitable telecommunication infrastructure, geographic barriers and sorely needed human capital. Some of these factors could influence the ELISA programme in South Africa.

2.1.3.1 Income differentials

One of the main contributors to the chasm between the well-resourced and the under-resourced is income differentials (Bernhardt, 2000; Berry, 2000; Castells, 2001; Leigh & Atkinson, 2001; Losh, 2003; Piazolo, 2001). According to Chinn and Fairlie (2006) income differentials account mainly for the global Digital Divide.

South Africa is one of the leading economies in Africa. South Africa has a highly developed economic system that is well-organised compared to first world standards. The majority of financial institutions are privatised while foreign banks are allowed to do business in the country with relative ease. South Africa's economy outperformed other upcoming market economies with regard to fiscal products and services (Lewis, 2001). It held the 13th position on the international stock market exchange. Since the international stock market lost significant value towards the end of 2008, an exact ranking for the Johannesburg Stock Exchange for the present could not be obtained.

Despite the abovementioned financial strengths, some authors classify the South African economy as a middle income economy (Lewis, 2001; Makhaya & Roberts, 2003). According to Lewis (2001, p. 10) South Africa still lacks foreign investments and only attracted a limited share "of the overall pool of

foreign direct investment (FDI) directed to emerging markets. During 1994 – 2000, FDI in South Africa averaged less than 1 percent of GDP". South Africa's FDI is compared to that of other emerging markets during 1994 – 2000 in table 3.

Table 3: Foreign direct investment during 1994 – 2000

Country	FDI/GDP
Argentina	2.5% - 3%
Brazil	2.5% - 3%
Czechoslovakia	4% - 5%
Hungary	4% - 5%
Malaysia	3% - 5%
Mexico	2.5% - 3%
Philippines	3% - 5%
South Africa	-1%
Thailand	3% - 5%

Source: Lewis (2001)

Barriers to the development of the economic growth of Sub-Saharan Africa comprise economic decline, increasing interest rates, poverty, soaring food and oil prices as well as power shortages. Hitherto some of South Africa's development objectives have not been reached. Globalisation motivated a series of changes together with the recognition that the needs of a majority of the population have not been met (Lewis, 2001). In order to diminish poverty and improve the economic situation in South Africa it is essential to attract more foreign investments and capital. FDI in South Africa declined from 33.854 R'billions in 2005 to -47.350 R'billions in 2006 (latest available statistics in 2008). This is due to several South African companies that invested abroad. This trend is illustrated in figure 3.

E-learning Initiative in South Africa (ELISA)

Figure 3: Foreign Direct Investment

R'billions	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
FDI	-3.040	-4.557	-0.970	6.756	-6.737	-0.475	4.280	85.763	12.153	1.275	-3.566	33.854	47.350

FOREIGN DIRECT INVESTMENT (FDI)
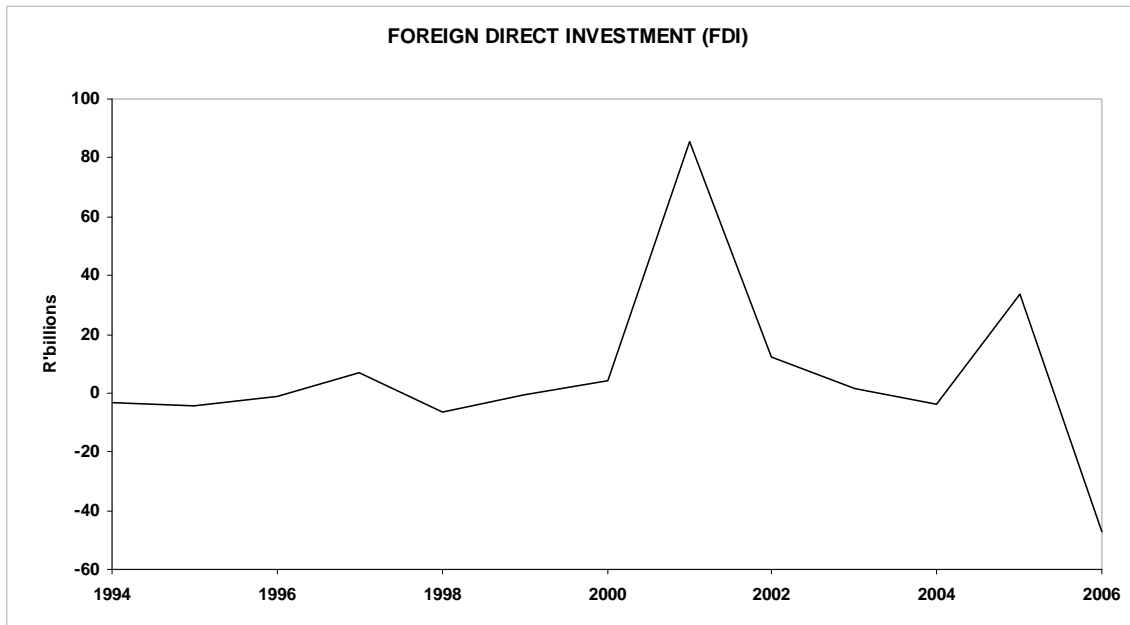
Source: Republic of South Africa (2007)

South Africa is a typical example of a partly developed country as well as a rapid developing one. "Even more than other 'dual' economies, South Africa is really two societies in one. At one extreme, is a modern 'first world' society – there is electricity, running water and modern sanitation in almost every home; two thirds of these citizens have at least a high school education, childhood mortality rates are low and poverty is minimal. At the other extreme there is another society – where half have less than a primary school education, over a third of children suffer from chronic malnutrition, only a quarter of the households have electricity and running water, and less than a fifth have modern sanitation" (Lewis, 2001, p. 20). Six percent of households have no access to water infrastructure, 29.3% of households have no access to basic sanitation and infant mortality (under one year) is 4.65% (Republic of South Africa, 2007). Contrary to this the United States, where the ELISA project originated, is one of the best examples of a developed country.

According to Internet World Stats (2008a) South Africa has an estimated population of 49,660,502 while the gross national income per capita of South African citizens is US$ 3630 or R26791.97. The United States has a population of 298,988,098 with a gross national income per capita of US$ 44,970.00 or R331910.52 (The World Bank Group, 2007). Hernández-Catá (2004, p. iii) states that "More generally, the long awaited renaissance of the African economy has not taken place".

E-learning Initiative in South Africa (ELISA)

The participants of the ELISA programme represent different backgrounds and income differentials could have an influence on the progress of the project. An economic survey of income differentials of the students was not undertaken because they indicated verbally that they would be able to participate.

2.1.3.2 Telecommunication infrastructure

Access to ICTs remains a vital element in the debate on the Digital Divide. Available sources regard the quality of a country's telecommunication infrastructure as an important contributing factor to this divide (Bernhardt, 2000; Chinn & Fairlie, 2006). Although the wireless component of the ELISA curriculum is not the focus of this study, it is essential to explore the background of fixed telephone lines and the situation of cellular communication in South Africa. This is essential since the ELISA participants could use mobile Internet access. The Stanford academic team expressed their interest in the fact that South Africa's cellular industry was more advanced than that of the US (Stanford team leader, personal communication, 2006).

Uneven distribution of fixed telephone lines is a feature of the South African telecommunication scenario. Prior to 1994 South Africa's underserviced areas (rural and urban) had limited telecommunication services. South Africa currently has two fixed-line providers namely Telkom South Africa Ltd. and Neotel. The main fixed-line provider is Telkom South Africa Ltd., a corporatised enterprise. It is state-owned, has the monopoly in the country while the South African Government appoints the Telkom Board. Telkom's services also include the provision of Internet, data transfer as well as wireless communication (Makhaya & Roberts, 2003; Telkom SA Ltd., 2007). According to Esselaar and Gillwald (2007) a second national operator (SNO) Neotel was licensed in 2005 and became partly operational with restricted wholesale services during September 2006. The company TATA is the strategic investor in Neotel which consists of the following groups: State-owned enterprises (30%) such as Eskom and Transnet/Transtel; Nexus Connexion (19%) and SEPCO (51%). The latter consists of the following groups: TATA group/VSNL (51%); Two Consortium (24.5%) and Communitel (24.5%). Neotel will focus on the provision of added value to the South African market rather than competing with Telkom on a price basis (Esselaar & Gillwald, 2007). The Telecommunications Amendment Bill of 2001 provides that a third national operator (TNO) will be introduced (Ali, 2003). Competition in the South African telecommunications industry was supposed to benefit the end-users; instead the prices of local calls increased while charges for international calls decreased (Ali, 2003).

Costs remain one of the main obstacles regarding telephone and Internet connections in Africa. McPhie (2004) found that these costs were excessively high across the African continent. Basic

access costs proved to be unaffordable for the majority of Africans. As already pointed out, the South African economy is classified as middle-income. Makhaya and Roberts (2003, p. 2) found that telecommunication tariffs, however, do not compare favourably with that of countries with a similar development level. They mention that in 2000, charges in South Africa were higher than in countries such as Brazil, Korea and Malaysia. This comparison was made "using purchasing power parity exchange rates to reflect the equivalent buying power and costs across different countries". South Africa's rate of leased lines "is still more than double the OECD average and dramatically higher than similar low to middle income countries such as Turkey and Poland" (Esselaar & Gillwald, 2007, p. 29). The installation charges for automatic and manual exchanges for billed residential services were R383.37 or US$ 15.16 (Telkom SA Ltd., 2007).

According to the South African Government (2007) the "monthly rental on a 512 kilobit/second fixed-line broadband Asymmetrical Digital Subscriber Line [ADSL]" was R362 or US$49.04 per month. The installation fee of a fast ADSL line was R490.00 or US$66.38 and the monthly rental was R152.00 or US$20.59 (Telkom SA Ltd., 2007). Statistics regarding some of Telkom's different services are illustrated in table 4 and table 5. Esselaar and Gillwald (2007) state that the Independent Communications Authority of South Africa (ICASA) reported in 2005 that South African mobile tariffs were significantly higher than in some neighbouring countries.

Table 4: Telkom ADSL connectivity

Item	ADSL Connectivity	Installation Excl VAT (Rand)	Installation Incl VAT (Rand)	Monthly rental Excl VAT (Rand)	Monthly rental Incl VAT (Rand)
A	Fast DSL	429.82	490.00	133.33	152.00
B	FAST DSL bundle	429.82	490.00	133.30	152.00
C	Faster DSL	429.82	490.00	285.96	326.00
D	Faster DSL bundle	429.82	490.00	285.96	326.00
E	Fastest DSL	429.82	490.00	362.28	413.00
F	Fastest DSL bundle	429.82	490.00	362.28	413.00

Source: Telkom SA Ltd (2007)

Table 5: Telkom ADSL modems

Item	ADSL modems	Purchase price Excl VAT (Rand)	Purchase price Incl VAT (Rand)
A	Telkom WiFi modem	700.88	799.00
B	Wireless card	262.28	299.00

Source: Telkom SA Ltd (2007)

The digital era also influenced the telecommunication industry, resulting in it becoming mobile. The mobile communications industry tapped the enormous potential of the developing world like few other transformations did. Castells (2001, p. 261) states that "Indeed, in 1999, over half the people on the planet had never made or received a telephone call". In addition to this statement Joshi and Avasthi (2007) report that according to the Telecom Regulatory Authority of India, the mobile phone market grows with roughly five million new subscribers monthly. Telephone line density was regarded as vital "for any of the most common uses of computers, accessing the Internet" (Chinn & Fairlie, 2006). This is no longer true. Hodge (2005) states that in low-income households, access substitution is taking place. This is especially true for developing countries where inhabitants have greater access to mobile technology than fixed lines. Kahlil (2003, p. 21) confirms this argument by saying that "We're approaching a point where for every fixed line in Africa, we have two cellular lines, at least. If you compare this with North America, it's the opposite". Esselaar and Gillwald (2007) predict that Africa's mobile penetration will escalate from approximately 9% currently to 20% by 2010 while fixed lines are estimated at 3% around today. According to Makhaya and Roberts (2003) the fixed line teledensity in South Africa was 11.4 per 100 inhabitants, while that of mobile phones was estimated at 24.9 per 100 inhabitants in 2000. Currently [2009] the main mobile subscriber base in South Africa is 42.2 million as indicated in table 6. Particulars of Cell C and Virgin Mobile could not be obtained.

Four mobile phone service providers are currently operational in South Africa. These are Vodacom, MTN, Cell C and Virgin Mobile. Vodacom and MTN are the leading operators, as illustrated in table 6. Apart from the South African market MTN expanded its market into South and East Africa, West and Central Africa as well as "the Middle East and North Africa region" (MTN Group, 2008). Vodacom is currently the largest cell phone operator in SA. It is jointly owned by Vodafone (50%) and Telkom (50%) and concentrates on the South African market. Vodacom introduced forefront technology such as DSL, WiFi (802.11 standards) and HSDPA "which allows for download speeds of around 1.8 mbit/s – comparable to what Telkom is offering on an Asymmetrical Digital Subscriber line (ADSL)" (Esselaar & Gillwald, 2007, p. 22). 3 C Telecommunications (Pty) Limited owns Cell C (Pty) Limited which provides international roaming facilities to Namibia, Mozambique, Spain, the Ivory Coast, Mauritius

and Swaziland. Virgin Mobile was introduced to the SA mobile market in 2006 and is a joint enterprise between Cell C and Virgin Management (Republic of South Africa, 2008a).

Table 6: Statistics for South Africa's mobile phones: 30 June 2008 to 31 March 2009

Mobile company	Total Subscriber base	Post-paid Subscriber Base	Prepaid Subscriber base	Market share
MTN	15,5 mil	2,5 mil	13,0 mil	36%
Vodacom	26,7 mil	3,9 mil	23,5 mil	53%

Source: MTN Press Office (2009); Vodacom Annual Report (2009)

Since the introduction of mobile services such as Vodacom and MTN in 1994 in South Africa (Hodge, 2005) the scope of telecommunications changed rapidly. Bradwood (2003, p. 6) reports that as early as 2003, South Africa was then "among the most cellular-dominated markets outside Europe. The country's cellular market is currently valued at more than R23 billion (US$3.03 billion) and is expected to grow to around R45 billion (US$5.94 billion) by 2004".

Low-income households in developing countries tend to substitute mobile services for fixed lines, due to lower monthly fees and affordability (Hodge, 2005). Additional advantages include "a significantly lower waiting time for a phone; the additional utility from mobility; no financial penalties for reconnection; a second-hand market for phones, which reduces connection charges; per second billing for the first minute; and the additional utility from free added service and handset feature" (Hodge, 2004, p. 212). According to Ferraro (2008) Susan Schorr, the head of the International Telecommunication Union's (ITU) regulatory and Market Environment Division, noted that 61 percent of the world's 2.7 billion mobile phone users are in developing countries, compared to 10 percent of the world's 1 billion Internet users. "For the developing world, the Internet experience is going to be a wireless experience" (Ferraro, 2008).

The i-mate PDAs that the participants of the ELISA programme received introduced them to high-tech wireless technology and presented the opportunity to use a multitude of different functions of the mobiles. As journalists they could put the devices to good use while they explored different environmental sites and reported informative incidents. Internet access via wireless devices freed them from constraints such as limited opportunities to access the Internet on the TUT campus during specified periods, the fact that they had to be on campus, and power shortages. Instead, they had the freedom to use the wireless devices anywhere within the coverage distance of MTN, the Internet Provider (IP).

Much of the existing literature emphasises the positive – negative dichotomy that exists around the Internet. Castells (2001, p. 247) states that the Internet contributes to "existing sources of inequality and social exclusion in a complex interaction that appears to increase the gap between the promise of the Information Age and its bleak reality for many people around the world". It can, however, be argued that the Internet should be regarded as a positive factor in the ELISA programme due to numerous factors which will be discussed below.

In order to interpret and analyse the role of the Internet in this study it is essential to refer to the definition of an Internet user. According to Internet World Stats (2008b) the International Telecommunication Union (ITU) defines an Internet user as any person "aged 2 years old and above, who went online in the past 30 days". The United States Department of Commerce (Internet World Stats, 2008b) states that an Internet user must be aged 3 years or older and must use the Internet on a current basis. The criteria for a Chinese citizen to be regarded as an Internet user, is from the age of six and utilization one hour a week. The Internet World Stats regard an Internet user as "anyone currently in capacity to use the Internet" (2008b) which boils down to available access to the Internet as well as the fundamental knowledge to utilise web technology. Criteria for a South African citizen to be regarded as an Internet user could not be obtained.

Internet usage has become a mainstream activity and part of everyday life. Figure 4 illustrates that African Internet usage amount to 3.4% of the World Internet Statistics compared with the 18% of North America (Internet World Stats, 2008c). While Africa has 14.2% of the global population, African Internet penetration by percentage of the population is only 4.7%. Correlating statistics for North America indicates that the population amounts to 5.1% and Internet penetration to 71.1% as shown in table 7 (Internet World Stats, 2008c). South African Internet users amount to 5,100,000 of the world Internet users (Internet World Stats, 2008a). Due to the abovementioned inequalities it is imperative that Internet usage among South African citizens should increase. Learners should get the opportunities to be exposed to technology and Internet usage from a young age. This would then enable HEI learners to benefit from the digital opportunities as was observed by the participants of the ELISA programme who were using the Internet very effectively.

Figure 4: World Internet Users – December 2007
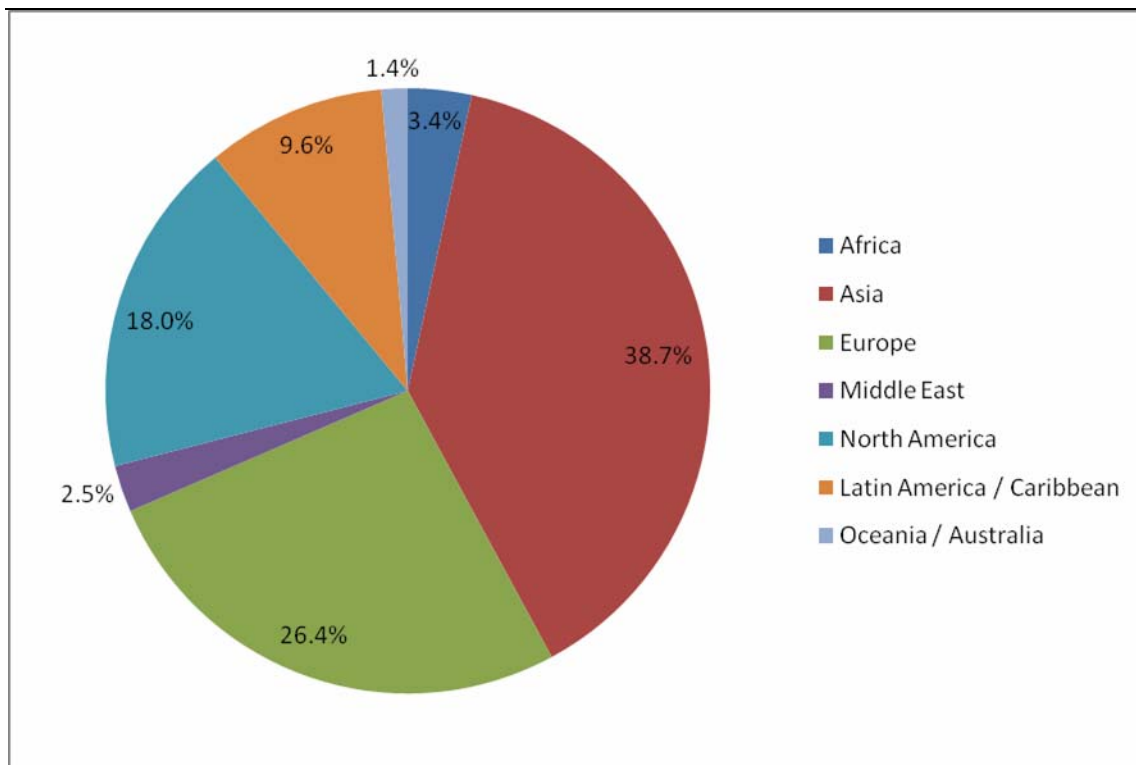
Source: Department of Education: Republic of South Africa (2008b)

Table 7: World Internet Users and Population Statistics – December 2007

World Internet Users and Population Statistics						
World regions	Population (2007 est.)	Population % of world	Internet usage, latest data	% Population (penetration)	Usage percentage of world	Usage growth 2000-2007
Africa	941,249,130	14.2%	44,361,940	4.7%	3.4%	882.7%
Asia	3,733,783,474	56.5%	510,478,743	13.7%	38.7%	346.6%
Europe	801,821,187	12.1%	348,125,847	43.4%	26.4%	231.1%
Middle East	192,755,045	2.9%	35003,510,	17.4%	2.5%	920.2%
North America	334,659,631	5.1%	238,015,529	71.1%	18.0%	120.2%
Latin America/ Caribbean	569,133,474	8.6%	126,203,714	22.2%	9.6%	598.5%
Oceania/Australia	33,569,718	0.5%	19,175,836	57.1%	1.5%	151.6%
World total	6,606,971,659	100.0%	1,319,872,109	20.0%	100.0%	265.6%

Source: Internet World Stats (2008a)

E-learning Initiative in South Africa (ELISA)

2.1.3.3　Geographic barriers

Geographic obstacles may prevent students from becoming technically educated and reduce opportunities for excellence. The Department for Education and Skills in the United Kingdom (2005) emphasises transport inequalities and recommends that ICTs should be made available to learners who are unable to attend specific educational institutions. Most of the South African ELISA participants resided in the Gauteng province where the town of Tshwane is situated. One student resided in Nelspruit and reported that travelling between Tshwane and Nelspruit proved to be time-consuming and costly.

2.1.3.4　Human capital

Human capital comprises inter alia a country's inhabitants' level of education, literacy, language proficiency and skills. Piazolo (2001, p. 33) points out that most of the developing world requires more computer-related educated and trained people to participate in the "new economy". Ogunsola and Okusaga (2006) confirm that professionals and highly-skilled technicians are high in demand in developed countries all over the world due to career opportunities and contributing personal factors. Spenneman (2004) argues that the IT industry is susceptible to this developmental aspect. Germany's Green Card initiative to attract IT specialists from outside Europe (Apap, 2002; Kubichek, 2004; Meijering & Van der Hoven, 2003; Werner, 2001) illustrates this tendency. An estimated 75 000 job vacancies were reported in the IT industry in Germany around 2000. The Green Card initiative permitted 20 000 skilled IT professionals from outside Europe to live and work in Germany for five years.

The brain drain involves "the diffusion of skilled human capital, particularly scientific and technical human capital (STHC), from home to host country" (Davenport, 2004). South Africa is currently also in this dreadful position due to a "brain drain" during the past two decades. This consisted of a tendency of highly skilled technicians and professionals to leave South Africa for developed countries mainly because of personal reasons or to further their careers. The South African Network of Skills Abroad initiated the development of a databank of South Africans in order to address the brain drain (Akoojee & McGrath, 2003). The purpose was the repatriation of skills to contribute to the rebuilding of the continent.

E-learning Initiative in South Africa (ELISA)

2.1.3.4.1   Literacy

Uneven global development of human potential is a phenomenon that has been in existence for centuries. "The information gap" (Bernhardt, 2000; Berry, 2000) is an older version of the Digital Divide and reflects the division among human beings with regard to access to the means of communication. Strover (2003, p. 275) states that the Digital Divide is "an ill-advised version of the 'Mercedes divide' in the United States: Some people can afford expensive luxury cars, others cannot, but that is the American way".

Chinn and Fairlie (2006, p. 38) refer to "human capital" which is measured by an individual's illiteracy rate or years of schooling. Robinson, Dimaggio and Hartiggai (2003) regard education as the main predictor of access to the Internet. Citizens with a higher than average education level exhibited higher Internet penetration rates than those with lower education levels (Leigh & Atkinson, 2001; United States Department of Commerce, 2000). Better educated people put technology to better use than their less educated counterparts (Losh, 2003). This finding is based on various American national surveys that investigated the access and use of computers between 1983 and 2000, as well as the access and use of the Internet between 1995 and 2000. Education and gender were used as variables. According to Chinn and Fairlie (2006) "A one year increase in average schooling is associated with a one percentage point increase on PC penetration". An indication of the education disparities of citizens of different continents is illustrated in table 8.

Table 8: Human capital disparities

Average years of schooling		
USA	Sub-Saharan Africa	Europe and central Asia
12.1 years	3.7 years	8.3 years

Source: Chinn and Fairlie (2006)

Superior education is a good indication of higher ICT-related opportunities that lead to higher wages (Oyelaran-Oyeyinka & Lal, 2005). Knowledge is an important building block of education that empowers the learner. Ogunsola and Okugasa (2006, p. 140) observe that knowledge can be associated with "improved quality of life, which is the ultimate goal of development activities". According to Halimi (2005, p. 12) "...knowledge has become an economic issue...as well as one of the keys to a better quality of life". Access to knowledge and information as opposed to deprivation of knowledge and information thus result in a significant difference in socio-economic levels. The ELISA participants were not prone to a literacy barrier as they were all HEI learners that enjoyed 12 years schooling and at least 2 years of tertiary education.

2.1.3.4.2   Language

Some of the available sources (Castells, 2001; Edejer, 2000) consider the diversity of languages to be a contributing factor to the Digital Divide. This was the situation during the beginning phase of dissemination of ITCs in the late 1990s. Castells (2001, p. 252) states that "87 percent of global websites are only in English". He adds that language per se could not be regarded as a barrier since the Internet is regarded as global. Depending on the purpose of the Internet access such as business transactions, education, recreation, career opportunities, information searches, shopping or handling of everyday affairs, the lack of language proficiency could very well prove to be an obstacle.

Edejer (2000) emphasises that information that has been read and translated from the original posting on the Internet is not always accessible to the end-user. Sometimes it is essential that the accessed content be converted and contextualised into relevant local context. Microsoft embarked on a project to expand some of its applications to indigenous African languages. The purpose of this innovation was to make technology available in local languages (Iboma, 2008). Emerging language markets seem to offer possibilities to foster web sites in local languages in South Africa other than English. Marson (2004) reports that Translate.org.za explored the possibility of launching open-source software in South Africa's 11 official languages. Linux desktop, OpenOffice and Mozilla were considered for translation into South African languages. Microsoft Corporation launched its Local Language Program to enhance the availability of software. The African languages Swahili and Afrikaans offered possibilities to access Microsoft Windows 2000 as well as Microsoft Windows XP. The South African National Language Service (SANLS) produced MS Word add-ons which will enable text origination (Gee, 2005).

The participants of the ELISA programme represented Afrikaans, English, Indian, isiZulu, and Sesotho mother-tongue speakers. Multilingualism and command of language played an important role in the programme. Although the ELISA programme was conducted in English, one of the official languages of TUT, language per se did not prove to be a major obstacle in the programme.

2.1.3.4.3   Culture

Language is an important tool in the communication process and is an attribute that is present in all cultures. Subdivisions of culture such as acculturation and enculturation entail different approaches. Acculturation involve changes in the original cultural patterns of groups of people. Enculturation entails identification with ethnic culture, shared values and participation in cultural activities. Enculturation plays an important role in the widening of the Digital Divide.

2.1.4 The paradox of the Digital Divide

Although not the focus of the study, it is noteworthy that uneven development does not only exist between countries from the northern and the southern hemispheres, but also between different communities in both developed and developing countries. This is also true for the United States (Department for Education and Skills, 2005; Stanford team leader, 2006). Rogers (2000) draws attention to the division between the Indian elite and the mass population in the Indian subcontinent. The gap between wealthy and underprivileged communities, metropolitan areas, and inhabitants of rural areas is typical of the division within a country. Losh (2003) emphasises the significance of inequalities among American social groups. Chen and Wellman (2003) refer to the social patterns within the divide and emphasise that these patterns differ within and between developing and developed countries. This phenomenon is also true for South Africa but this did not have noticeable effects for the ELISA programme.

The paradox of the Digital Divide, however, lies in the fact that people who could gain the most from info-inclusion, are unlikely to access ICTs. The contradiction exists that the well-resourced will gain disproportionally from the "increased information offer" (Hüsing & Selhofer, 2002) at the expense of the under-resourced. The danger exists that due to the ubiquity of ITCs the divide between wealthy and poor nations will increase (Wallsten, 2005). Much of the existing literature (Chen & Wellman, 2003; Kozma, McGhee, Quelimalz, & Zalles, 2004; Spenneman, 2004) argues that the Digital Divide will continue to widen unless corrective action is taken to close it. South Africa is no exception to the rule regarding this aspect of the Digital Divide and I argue that this is one of the main reasons why an outreach programme such as ELISA is essential for South Africa.

2.1.5 Commonalities and differences

The focus of the discussion on the Digital Divide paradigm is on the commonalities between the well-resourced and the under-resourced, as well as on the differences that exist between different role players. Various experts refer to the gap between the well-resourced and the under-resourced. Bernhardt (2000, p. 4) states that there was a gap long before the arrival of the Internet, and concludes: "efforts must also focus on filling the chasm that lies between both sides". The conceptual model illustrated in Chapter 1, Figure 2 indicates the Digital Divide between global well-resourced learners and the local under-resourced learners. Cronjé accentuates the fact that "The more global something becomes, the harder it may be for locals to see its relevance. The more local things become, the less globally competitive or useful they might be" (Cronjé, 2009). He emphasises that increasing either of the two sides would result in the increase of the Digital Divide. To reach

commonality, one has to distinguish fundamental aspects on both sides and start working from there. Prof Cronjé's work in Sudan is mentioned under Theory and methodology in this study (Chapter 1, 3).

2.2.   How to bridge the Digital divide

The question has been raised on whether it is possible to eliminate the Digital Divide. Hüsing and Selhofer (2002) state that European and international policies "have identified the Digital Divide as a threat to sustainable information society and are consequently seeking for a remedy against it". According to Ali (2003, p. 114) all the citizens of a country have a right to access basic communication services. This is so because communication "…is an enabler of social interaction across time and geographic space, and a creator of economic development and prosperity for even the most dispersed populations".

Advanced Micro Devices (2008) compiled data using reliable sources such as Internet World Stats, Nielsen Ratings and the ITU to project global Internet penetration over time. According to this projection at least 50% of the global population won't have Internet access until 2030. The question thus remains valid on how best to bridge the Digital Divide.

In October 2007 a summit of leaders launched Connect Africa in Kigali, Rwanda. This initiative is an international multi-stakeholder partnership. The organisers of this summit include partners such as the ITU, the African Union (AU), the World Bank Group and the United Nations Global Alliance for ICT and Development, in partnership with the African Telecommunication Union, the UN Economic Commission for Africa and the Global Solidarity Fund. The purpose of Connect Africa is to "mobilize the human, financial and technical resources required to bridge major gaps in information and communication technology (ICT) infrastructure across the region, with the aim of supporting affordable connectivity and applications and services to stimulate economic growth, employment and development throughout Africa" (International Telecommunication Union, 2007). Klaus Schwab (2004) executive chairman of the World Economic Forum (WEF) emphasises the organisation's intention to remain fully involved in the affairs of the African continent. They aim to see to the provision of sound policies, improved governance, more intelligent support by international role players and increased commitment of the private sector to help solve the African dilemmas. Locally the South African Government's aim is "a better life for all" (Republic of South Africa, 2008a).

The effect of the Digital Divide on developed countries as well as developing countries is multifaceted. Much of the existing literature (Kozma et al., 2004) emphasises that this divide may increase unless radical steps are taken to decrease it. Prospects to diminish this divide between and within countries and populations mainly comprise economic development and growth, human capital investment, technology diffusion and telecommunication infrastructure expansion.

2.2.1 Economic development and growth

Economic development and growth are one of the major aspects that need to be addressed in the endeavour to decrease the Digital Divide. This remains a critical challenge in developing countries such as South Africa. The South African Government committed itself to strategic involvement to develop economic growth (Republic of South Africa, 2008a).

Economic growth requires capital and labour. The assumption that the creation of capital automatically generates growth in Africa, could not be verified (Lewis, 2001). One of the options to develop economic growth and development is to attract foreign investments. Direct measures to ensure this entail the attempt to improve the value and number of substantial investments. Indirect measures entail economic competitiveness and the option to make investment attractive by improving labour markets, have improved trade competitiveness and the endorsement of Small, Medium and Macro-size Enterprises (SMMEs) (Lewis, 2001). Financial support by banks or financial institutions is indispensable for entrepreneurs to obtain loans to start new businesses (Ogunsola & Okugasa, 2006).

The aim of the New Partnership for Africa's Development (NEPAD) is to improve socio-economic growth and reduce high poverty levels across Africa (Akinboade & Lalthapersad-Pillay, 2005). They argue that in order to dismiss the idea of Africa as a ''high-risk'' continent (2005, p. 252) it will be essential to employ initiatives on political and financial governance as well as on peace and safety measures. Schemes such as credit guarantee, strong regulation and legislation of market operations, economic systems and property rights will ensure foreign investment.

FDI is a dominant tool to bridge the Digital Divide. The importance of FDI must not be underestimated. According to Lewis (2001) South Africa only attracted a minimum amount of FDI intended for developing markets in the past. FDI in South Africa was "less than 1 percent of [the gross domestic product] GDP" (Lewis, 2001, p. 39) between 1994 and 2000. FDI can result in advantages such as the inflow of foreign capital, increased investment levels and transfer of skills and technology. Spin-offs comprise export possibilities, the improvement of the trade balance, enhancing the economy's import capacity and stimulating job creation. Employment is an essential element to alleviate poverty and to stimulate growth and development.

The development of infrastructure such as the supply and utilisation of electricity and other fuel resources as well as fixed telephone lines can promote growth and should be expanded. Perkins, Fedderke and Luiz (2005) confirm that during 1976 – 2002 the investment in infrastructure for electricity and transport in South Africa declined. Bearing this growth goal in mind the South African Government initiated a five year plan from 2005 to 2009. The purpose is to re-invest in funding projects for Eskom and Transnet, the parastatal transport provider of South Africa.

Until 2008 this economic injection has not proven to have the desired effect. South Africa exports electricity to neighbouring countries such as Zimbabwe, Mozambique, Namibia, Botswana, Swaziland, and Lesotho whilst power shortages were introduced locally in order to reduce electricity consumption. These precautions are pressing, especially with the development projects of the 2010 Soccer World Cup in mind. South Africa will host the 2010 Soccer World Cup and the country is in the midst of several development projects that require infrastructure, especially electricity. The supply and use of infrastructure will hopefully result in growth, employment and revenue.

Continued economic development is important in a country's economic growth. Perkins et al. observe that "the need for investment in electronic infrastructure never goes away" (2005, p. 223). This premise is especially true for South Africa. Existing infrastructure should also be maintained in order to provide services and support to the end-user. In return enterprises such as Telkom SA Ltd. and South Africa's national energy supplier Eskom can create growth, development and revenue. Telkom SA Ltd. and Eskom are responsible for employment creation which can result in poverty alleviation and empowerment.

Funding projects and grants are examples of initiatives to provide financial support, technology and expertise to disadvantaged communities. This concept is ever present in developed as well as in developing countries. During the period 1995 to 2000 the US Department of Commerce expressed their interest in bridging programmes that aimed at increased computer ownership and Internet penetration (Leigh & Atkinson, 2001). *Plugged In* is an example of community economic development in East Palo Alto, California. This establishment is regarded as "perhaps the most innovate and cutting edge Community Technology Center (CTC) in the country. If one can learn anything about interventions under extreme conditions of wealth vs. poverty, it could be from this well-structured experiment within Silicon Valley" (Gordo, 2003, p. 167).

In South Africa the Government is committed to community development by means of financial support allocated for education. Bursaries and funding of Further Education and Training (FET) institutions were a priority during 2007. R100 million was allocated for these resulting in more than 12500 students benefitting from it. R2 billion was set aside to upgrade FET institutions (Republic of South Africa, 2008a). Despite these initiatives much more funding is required to enhance economic growth and development. The ELISA programme is an intervention that was designed to address dilemmas such as inadequate funding programmes in South Africa, accomplish empowerment and bridge the Digital Divide. More programmes such as these are crucial in the challenge for growth and development.

2.2.2 Human capital investment

Many scholars of the Digital Divide regard the enhancement of human capital as one of the main enablers to bridge the Digital Divide (Spenneman, 2004). Education is an important building block in initiatives to develop human capital, growth and expertise. Since the early 1990s first world economies regarded resources such as knowledge and information on a national level as well as within organisations as most valuable to sustain continued development (Ogunsola & Okugasa, 2006). They argue that knowledge is associated with an advanced standard of living, and which is an important goal in the process of growth and development. ICTs increasingly inform the way people learn, live, work, communicate, socialize, relax, retrieve information and do business. Although there is proof that the South African Government and other interested parties are motivated to enhance human capital and focus on empowerment programs in South Africa, it is not yet adequate. The enrichment of human capital should be a priority of all concerned parties.

Education is one of the prerequisites for developing countries to become part of the information age (Chen & Wellman, 2003; Leigh & Atkinson, 2001). According to Robinson, Dimaggio and Hargittai (2003) education is the main forecaster of Internet access. Kubichek (2004) regards both Internet literacy and access as prerequisites to obtain and to retain employment. Hüsing and Selhofer (2004, p. 22) regard access and skills as "a facilitator of one's employability".

2.2.3.1 Internet literacy

Digital literacy is regarded as a "life skill" similar to literacy and numeracy (Republic of South Africa, 2004b). This initiative should be directed at all education institutions, especially HEIs that could benefit from it. Examples of similar campaigns are special-entry campaigns that were launched in Germany to promote Internet literacy. After initial prejudice by Chancellor Helmut Kohl of Germany about the Internet in future economic growth and development (Kubichek, 2004) Chancellor Schroeder's red-green government decided to promote Internet literacy. The "Government and IT industry agreed that 8.8 million housewives and men, 20.7 [million] senior citizens and 4 million unemployed people should not be left to commercial training and Internet cafés, but be offered an appropriate low-barrier entry in addition by the 'Internet for All' campaign" (Kubichek, 2004, p. 11).

Special entry courses for Internet illiterate people should be developed (Kubichek, 2004). Curricula that focus on basic Internet literacy such as how to get online, send and receive emails, use search engines and how to surf the web, should be developed. Although the ELISA programme did not focus

on entry-level literacy courses, it can be effective in the process to improve literacy amongst Internet illiterates.

Programmes that focus on special content should be developed to arouse the interest of specific groups. Chen and Wellman (2003) report that a lack of programmes on specific content can be an obstacle in Internet usage. Special courses aimed at particular groups may be an effective measure to get people interested in Internet usage. Kubichek (2004) states that Germany launched special programmes aimed at women called "Women into the Net" as well as special courses for seniors. Programmes that contain special content on a variety of subjects may be an effective measure to interest different groups in South Africa. Due to the multicultural and multifaceted South African population a variety of programmes could be relevant in this regard. ICT applications that provide locally relevant content (Chetty, Tucker, & Blake, 2003, p. 1) could be an effective assistance in bridging the Digital Divide. The authors state that services relevant to inhabitants' "culture, beliefs and language" should be made available to them. The ELISA programme which focuses on environmental security, is an example of a programme that contains specific content.

Apart from programs that contain special content, programs in all eleven South African languages could also decrease the Digital Divide. Language can be used as a motivating factor to promote literacy. The predominance of the English language is an important phenomenon in the process of exploring material at tertiary level and is a significant factor at tertiary level. Non-English mother-tongue participants in the ELISA programme did not encounter language as a barrier since the course was conducted in English, one of the official languages of TUT. The availability of appropriate environmental content in all the other ten South African languages may be relevant. The ELISA participants represented multicultural backgrounds such as Afrikaans, English, Indian, isiZulu and Sesotho. The majority of the participants were multilingual and worked as journalists who tried to further their careers. However, suitable material in their mother tongues would be indispensable in order to create an awareness of environmental security amongst their readers and also amongst secondary school learners. This is of particular importance in South Africa since limited environmental resources are getting scarcer day by day.

Programmes to train ICT professionals in South Africa should be expanded. Such programmes are powerful measures to decrease the Digital Divide (Ogunsola & Okugasa, 2006). The quality and quantity of properly trained instructors are not negotiable. In South Africa, several facilities exist at the 23 HEIs and other education institutions to study ICTs. Since the information age requires ICT literacy it is imperative to train enough professionals. Although this is not applicable to the ELISA programme, such an initiative, however, could contribute towards the increase in the human capacity pool. ICT professionals not residing in their native countries should be encouraged to take up positions at home (Ogunsola & Okugasa, 2006) and contribute to the development of human capital there. Well-trained

experienced professionals are in high demand all over the world. Special measures to attract adequately trained IT engineers were launched in Germany. This involved a "Green Card for IT specialists from outside Europe" (Kubichek, 2004, p. 2). Stable political and economic factors also play a role in the decision of professionals to return home. The ELISA programme was not prone to this aspect of endeavours to bridge the Digital Divide. In future, however, this could influence the quality and capacity of human capital in South Africa. "The Come Home Project" was launched to encourage South African professionals working abroad to come home.

Table 9: World Internet Users – December 2007
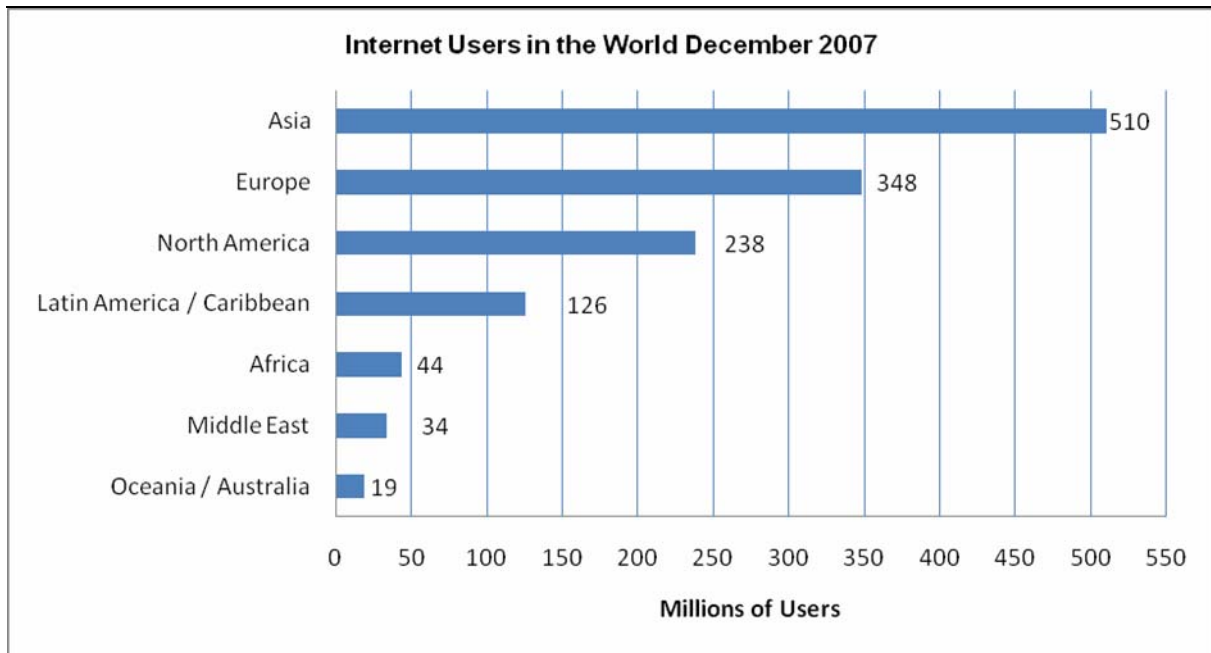
Source: Internet World Stats (2008)

2.2.3.2 Internet access

Internet access is a prerequisite to obtain internet literacy. Kozma et al. (2004, p. 361) found that ICT can contribute to human development in a remarkable way – "but only for those that have access". According to De Haan (2004, p. 67) IT access is a multifaceted concept that comprises "motivation, possession, digital skills and use". Ferlander and Timms regard "access, skills and motivation (2006, p. 137) as requirements for digital inclusion. Several aspects lie at the heart of the Internet access debate. Figure 5 portrays the main aspects that influence Internet access as interpreted by Kubichek (2004).

E-learning Initiative in South Africa (ELISA)

Figure 5: The Internet Access Rainbow
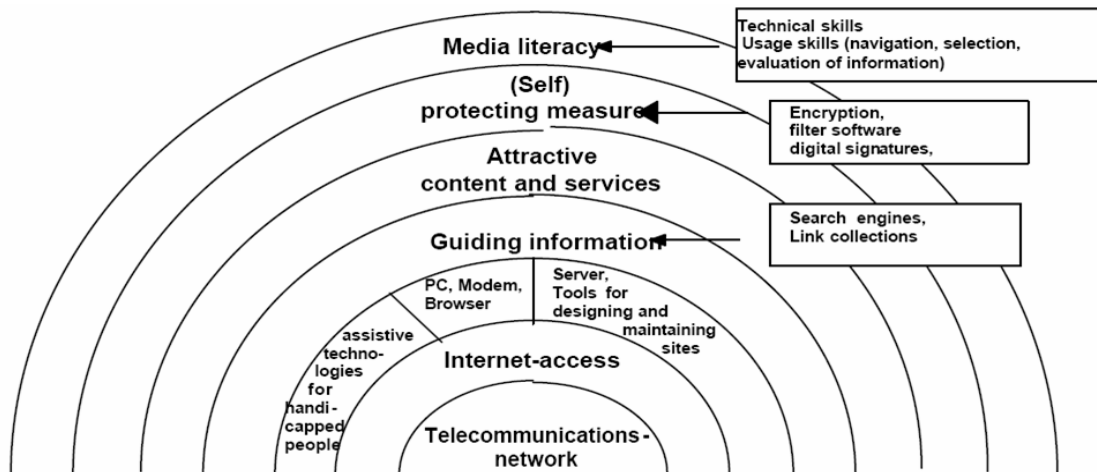
Source: Kubichek (2004)

Physical access to ICTs has a major role in bridging the Digital Divide. The possession or availability of hardware is a precondition for Internet access. Ferlander and Timms declare that "to be on the right side of the (dual) digital divide it is vital to have physical access to technologies" (Ferlander & Timms, 2006, p. 137). The cost of hardware and software therefore is one of the main barriers in the endeavours to bridge the Digital Divide. The ELISA participants had to use their own hardware but could use the well-equipped facilities of TUT in order to go online. Moreover, the state-of-the-art PDAs that they received enabled them to explore wireless technologies. Appropriate software was installed on all the PDAs. The participants, however, only had the PDAs at their disposal for the duration the course. Subsequent funding programmes could enable the participants to possess their own PDAs.

Internet access implicates telecommunication infrastructure. Expansion of telecommunication infrastructure can be an important tool to bridge the Digital Divide. Insufficient telecommunication infrastructure could posit a problem for the initiatives to minimise the Digital Divide. The quality and quantity of telecommunication networks in a country are fundamental in the debate on Internet access. In developing countries such as South Africa the improvement and expansion of telecommunication networks can play a determining role. Existing facilities should be maintained in order to provide uninterrupted services. Telecommunication infrastructure was not a problem for the ELISA participants as they all resided in areas where there was adequate coverage.

Access to electricity will assist learners to counteract the Digital Divide. Alternative forms of power supply such as solar power and generated power produced by generators can be used to boot personal computers, laptops, modems and use browsers. Wind farms in South Africa are a new source of electricity that could be explored and used. Wireless technology such as the PDAs works on

E-learning Initiative in South Africa (ELISA)

a battery system but need to be recharged every so often. This was not a problem during the ELISA programme. It could, however, be problematic when journalists have to visit rural areas in their work.

Lower fixed-line fees and lower mobile fees can reduce the Digital Divide. I argue that lower connection fees and lower monthly tariffs for fixed lines will contribute to surmounting the Digital Divide. As previously mentioned (see 2.1.3.2,) the rate of leased lines in South Africa is double the average rate of similar services in OECD countries (Esselaar & Gillwald, 2007). Table 10 gives an example of Telkom's monthly rental fees.

Table 10: Telkom's monthly fee

	Monthly telephone Subscription fee	3 minute telephone call charge to a fixed line	Telephone charge per second	Monthly ADSL Subscription fee
Home	R133.39	R1.14	59,4c (first 94 seconds) 0.63c (thereafter per second)	R362.00
Business with 2 extentions	R447.32	R1.14	59.4c (first 94 seconds) 0.63c (thereafter per second)	R362.00

Source: Telkom SA Ltd (2007)

Lower Internet access costs can be instrumental in the process to bridge the Digital Divide. Much of the existing literature regards high Internet access costs as problematic. Spenneman (2004) states that high Internet access costs exacerbate the Digital Divide. Leigh and Atkinson (2001) argue that cost is one of the reasons why some United States citizens don't have Internet access. The ELISA participants had to settle their own Internet access accounts when retrieving information and completing assignments off-campus. This was usually the case as they had to submit their assignments on Friday evenings. They received vouchers for the PDAs to the value of R150 per month for a period of three months. They could use these to get Internet access.

The establishment of Internet public access points where people who do not have computers nor Internet home access to go online, can be significant. Facilities such as community technology centres, schools, libraries, post offices, churches, laundromats, cyber cafes and free-standing centres could be used. In the United Kingdom, by 2005 there were more than 7000 UK online and learndirect

centres, including 3000 public libraries for such purposes (Department for Education and Skills, 2005). I argue that examples of "Internet for All" and the Action Program for Innovation and Jobs which supported public-access facilities in Germany (Kubichek, 2004) are applicable to the South African situation. This initiative will help to overcome the barrier of hardware costs and connection fees. The ELISA participants could benefit from Internet public-access facilities since these access points could be close to work or available at suitable times. Not all the students who participated had broadband access at home.

Technology centres where Internet access is available will lessen the need to invest in expensive hardware and connection fees. Centres that offer open access to its ITC facilities during off-peak periods may promote Internet access. Examples of such periods are during evenings, weekends and holidays. The Department for Education and Skills (2005) in the United Kingdom suggested this initiative to bridge the Digital Divide, but submit that it is debatable whether such an initiative will be successful in a developing country such as South Africa. However, it could be very valuable to part-time students at HEIs. The ELISA participants could certainly have benefitted from such a facility.

2.2.3 Technology diffusion

The dimensions of digital inclusion comprise several features. Much of the existing literature emphasises access and skills as dimensions of digital inclusion (Castells, 2001; Ferlander & Timms, 2006; Hüsing & Selhofer, 2004). The development of skills is therefore a prerequisite in the endeavour to bridge the Digital Divide. The initiative to provide modern technology to the inhabitants of an area can assist in this.

Information and knowledge play an important role in the 21st Century and cannot be underestimated. Ferlander and Timms (2006) report on the success of a Local Net and Internet Café in Sweden that attempted to bring modern technology to a suburb in Stockholm. The citizens were very grateful for this initiative as it supplied knowledge and information online. Customers of the IT-café also used the facility to improve their skills. Diffusion of technology may thus increase knowledge diffusion through improving communication. Initiatives such as these will promote development in South Africa, especially in rural areas. ELISA participants who do not have computers may then be able to access information, improve their skills and promote environmental security even in rural and underdeveloped areas.

Technology diffusion should be made available to everybody in order to bridge the Digital Divide. Advantaged groups have better technology diffusion than disadvantaged groups. The latter comprise poor people, racial minority groups, women and/or less educated groups. This initiative coincides with

E-learning Initiative in South Africa (ELISA)

the idea of "Internet for All" (Kubichek, 2004, p. 10). ELISA participants did not experience technology diffusion as a barrier whilst completing the programme. However, should they in future work in rural areas where technology diffusion is inadequate digital inclusion may be problematic. The challenge remains to enable all South African citizens to access ICTs.

Income is an important determinant in the use of technology. Initiatives to increase income may assist to bridge the Digital Divide. A positive relationship exists between technology use and income across countries and within countries. Higher income may lead to higher technology use. It will thus be in South Africa's interest to promote economic growth and development. This may result in increased technology use. Castells (2001) observes that income plays an important role on the diffusion of broadband. Users manipulate the Internet more than any other technology. He points out that this is because of the flexibility of this technology and the speed of transmission of their feedback.

2.2.4 Telecommunication infrastructure

Communication technology (CT) refers to telecommunications equipment through which information can be sought, sent and accessed – for example phones, faxes, modems and computers (Department of Education, 2004b). Transmission technologies refer to the use of cable modems, asymmetrical digital subscriber lines (ADSL), integrated services digital networks (ISDN) and wireless-based Internet access (WAP). Initiatives to develop, improve and expand telecommunication infrastructure will contribute in the endeavour to bridge the Digital Divide.

Wallsten (2005) states that income is one of the most important determinants of telecommunication development. Lower costs for telecommunication services may make these commodities more affordable and thus contribute to overcome the Divide. The communication costs include lower connectivity fees, lower monthly subscription fees, lower transaction fees and the reduction of wireless device fees. Lower fees would not be relevant to the ELISA participants since they completed the programme and would not benefit from possible future lower costs. It could, however, be advantageous to future students who need Internet access at an affordable fee.

Development of the telecommunication infrastructure may bridge the Divide. Development involves the expansion of telecommunication services to rural areas that have to do without the help of fixed line teledensity. Broadband access will help students to connect at a high speed. The improvement of infrastructure will favour growth, investment and poverty alleviation (Hernández-Catá, 2004). ELISA participants could use the TUT broadband facility while on campus; when not, they have to use their own transmission technologies to retrieve information and complete their assignments.

Regulatory changes and competition can help in bridging the Divide. The Independent Communications Authority of South Africa (ICASA) regulates the telecommunications industry in South Africa (Ali, 2003). The South African Government has been hesitant in the past to deregulate the telecommunication industry, resulting in unfair competition in the ICT industry. The Telecommunications Act of 1996 introduced significant changes by initiating phased competition into this industry. This ended the government's monopoly of the South African telecommunications industry. Wallsten (2001, p. 2) states that "competition is the most effective agent of change, and privatizing a monopoly without concurrent regulatory reforms may not necessarily improve service". Competition in this regard will not only benefit the ELISA participants but all South African citizens.

3   Higher Education Institutions

Higher education changed radically during the latter part of the 20th century and will continue to do so in the 21st century. This trend is evident all over the world (Bruns, Cobcroft, Smith, & Towers, 2007). Developments such as globalisation, increasing student mobility, lifelong learning, participation of open universities, the introduction of the Internet, virtual classrooms and e-learning transformed higher education significantly (Daniel, 2005). Challenges such as financial constraints, return on investment (ROI), decreasing resources, escalating student numbers and increased competition between educational service suppliers compel HEIs to adapt and innovate.

Educational needs are increasing (Anderson & Middleton, 2002). HEIs are pressurised to provide in the increasing requirements and needs of students and in order to do this, HEIs have to adapt the traditional educational style to a more flexible learning style. In some of the developed countries the student profile changes from mainly undergraduate students to accommodate part-time and adult students as well. In Canada, the UK and New Zealand (Daniel, 2005) student profiles show that a significant number of older students are entering higher education. South Africa is no exception. The ELISA programme is an example of an intervention where 13 of the 14 participants were working students and could further their careers whilst studying. This phenomenon illustrates the efficiency of the ELISA programme as a means of support.

Several interrelating aspects contributed to a new form of higher education. Knowledge production can be regarded as flexible and transdisciplinary, involving a wide range of partners from different sectors, public and private (Daniel, 2005). TUT is an example of a HEI that is increasingly becoming a virtual meeting place where interactive learning takes place. Technological skills are imperative to claim inclusion in the digital society. The online delivery of the content of the ELISA curriculum via CD-ROM enabled the TUT participants to be part of a unique e-learning opportunity that could advance career opportunities. Internet access allowed the students to obtain vital information and to expand their perspectives on environmental security. Video conferences introduced the participants to the

comprehensive input of international environmental experts, much to the benefit of their awareness of environmentalism. An understanding and awareness of environmentalism is of the utmost importance in South Africa and, as a matter of fact, for the whole of Africa.

Higher education is often related to improved career opportunities aimed at increased financial growth. HEIs experience pressure of escalating student enrolment and their numbers are increasing worldwide (Abbott & Doucouliagos, 2003; Greenhalgh, 2001; Rickinson & Rutherford, 1995; Taylor, Bates, & Harding, 2004). According to McIntosh (2005, p. 2) higher education grew significantly since 1998 as indicated in the UNESCO 2004 report. It says that "the historic threshold of 100 million students worldwide has been crossed and the prospect of reaching the figure of 125 million students will be attained before 2020". Such conspicuous expansion is especially true in Africa, the Arab countries, Latin America, the Caribbean and in Eastern and Central Europe.

The demand for higher education is a well-known phenomenon in South Africa, resulting in twenty three HEIs. Cronjé (2006) contends that "Too often e-learning strategies were based entirely on cost-driven models with ROI being cited as the chief motivator for its implementation". In 2006, the total number of learners and students in all areas of the education system in South Africa was 13 910 696. 5.3 % of these students were enrolled at HEIs as illustrated in figure 6. TUT, where the ELISA programme was hosted, represented the largest residential HEI in South Africa with 51 446 enrolments (Republic of South Africa, 2008b). These statistics illustrate the importance of higher education in South Africa as a developing country. The ELISA programme thus contributed to the accomplishments of TUT students in supporting them to achieve their qualifications.

Figure 6: Percentage distribution of learners in the education system in 2006
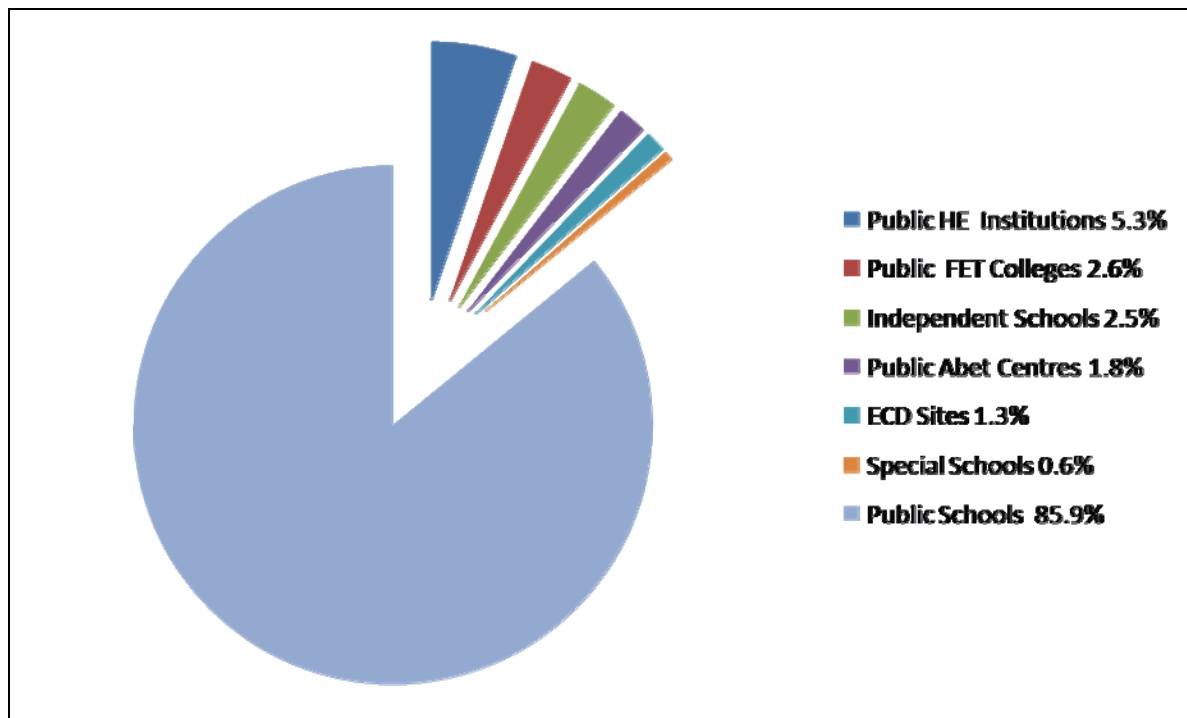
Source: Republic of South Africa (2008b)

The financial implications of higher education cannot be underestimated. While economists currently [2009] predict financial constraints both nationally and internationally, e-learning as part of an integrated learning approach can be seen as a more economical option than traditional learning. The original outreach programmes that Stanford presented to former Soviet Union and Eastern European students by bringing them to Stanford, turned out to be very costly. Instead, a model to present outreach programmes to students in their home countries, proved to be a more viable option. The idea was to reach more students at a lower per student cost. This was also the inspiration for the ELISA programme.

Larsen, Martin and Morris (2002) point out that one of the advantages of e-learning is that more students can study foreign courses while remaining at home. Bates, A.W., & De Los Santos, J.G.E. (1997) refer to the advantages of global access to education while Altbach (2004) reports that about 8 million students will study outside their home countries by 2025.

4   The role of technology

New technologies are continually transforming the modus operandi of everyday lives, especially sectors such as communication, teaching and learning. Since the digital revolution is changing all

facets of our society it results in a "change in the way children gather, accept and retain information" (Tapscott, 1998, p. 2). The revolution in the ITC world is a phenomenon that cannot be compared to anything that happened before (Leiner, Cerf, Clark, Kahn, Kleinrock, & Lynch, 1999). Losh (2003, p. 74) has found that "of all the innovations of the twentieth century – space travel, heart transplants, effective birth control, genetic engineering, television – at the turn of the millennium, a National Public Radio study reported that Americans rated computers as the most important".

Much of the current existing literature on communication refers to the information revolution. Castells (2002) states that the "revolution" in ITCs spreads out all over the globe. Bernhardt (2000) points out that ICTs are revolutionising communication, education and services. Edejer (2000) refers to the revolutionary power of technology while Daniel (2005) points to the ample revolutionised areas of life and that educationists need to expand that revolution for the benefit of learners. Clarke (2002, p. 1) summarises by saying that "history is littered with failed attempts to 'revolutionize' learning through innovative technology". However, he adds that these attempts resulted in a valuable lesson: "In order for technology to improve learning, it must 'fit' into students' lives...not the other way around".

There exist different rationales for the use of educational technology in higher education. Rumble (2001, p. 5) says that educational technology is regarded as a method to improve "the efficiency of education through productivity increases". Cronjé (1997) argues that, firstly, there exists a need "for learners to be technologically literate" and, secondly, it is hoped that "technology could expedite the learning process". Cronjé quotes the 1996 summary of Reigeluth to distinguish the Industrial Age from the Information Age. The role of technology in the Industrial Age was to produce products. This role changed to facilitate the processes of the Information Age. Thirteen of the fourteen participants of the ELISA programme were technologically well literate since they had to fill a definite need in the journalism profession. Although not the focus of this study, McCombs (2000) emphasises that several studies show that appropriately applied educational technology can improve learning and accomplishment when compared with conventional teaching methods. The ELISA programme indicated that the educational technology employed in the module definitely enhanced student performance.

The role of technology in the ELISA programme can be seen as a tool to facilitate and achieve a variety of goals. Technology as an instructional agent refers to the "materials based on CD-ROMs, online sources, video- or audio-streaming, interactive video, textbooks, and so forth" (Paulson, 2002, p. 127). The ELISA programme used these technologies as well as mobile technology as part of an integrated learning process. The ELISA programme explored the possibility of a two-way learning process between Stanford and UP.

One of the most important functions of technology as a tool is to facilitate change. Bates (2005, p. 2) has determined that "technology indeed provides educators and governments with the capacity to transform radically our whole education system and nowhere is this truer than in the area of flexible and distance learning". Technology-based teaching can lead to the elimination of the boundaries of time, geography and jurisdiction (Daniel, 2005). Technology also makes it possible to rethink the boundaries of the institution resulting in the expansion of technology-based teaching that is not limited to location. The ELISA programme is an example of such an expansion of information, advice and support from Stanford for TUT. The purpose of the expansion was to initiate an awareness of environmentalism among the participants and ultimately create a paradigm shift and change in behaviour among the participants.

Technology can be used as a tool to accomplish a variety of different tasks. According to Hannafin (1999) learners can use the same technological tool to achieve different functions. These functions include seeking information, integration of new and existing information and communication. Such tools as "keyword searches, to topical indexes, to the semantic search engines available on the World-Wide Web" (Hannafin, 1999) can assist the learner to find the appropriate information and for individual purposes. They help to collect significant information valuable to simplify subsequent access or to gather subsets of resources suitable for personal learning requirements. Integration tools synchronise new and existing knowledge. Diverse concepts from multiple perspectives are organised and integrated with personal knowledge. Communication tools enable interaction between educators and professionals. Synchronous communication tools involve simultaneous interaction between participants. Asynchronous communication tools entail exchanges among participants who are not necessarily simultaneously available. The ELISA programme employed all these tools to facilitate the functions mentioned.

Change and innovation facilitated by technology exploit new resources. Innovation creates new methods that aid flexibility. According to Clarke (2002, p. 1) e-learning extends the classroom beyond its physical limitation "it is anytime, anywhere access to school via the web". The ELISA programme employed an integrated learning approach that combined traditional and e-learning strategies. While there are many definitions of e-learning the following definition is the most applicable for the ELISA programme: "almost any learning environment in which electronic media, such as computers, are used as a component of an instructional delivery system. These can range from the use of Email to supplement print-based materials distributed at a distance to courses that are delivered entirely by means of technology such as computers or the World Wide Web" (Keller & Suzuki, 2004, p. 230).

The debate on the outcomes of e-learning continues. Cronjé (1997) asks "Who killed e-learning?" while Greenagel (2002) accentuates marginal competencies as one of the reasons why the promise of e-learning has not yet been realised. Galusha (1997) explains several barriers to distance education

E-learning Initiative in South Africa (ELISA)

but concludes that distance education is extremely suitable for adult learners. Romizowski (2004) mentions that the e-learning baby is often thrown out with the bath-water, unless certain conditions are being met. The e-learning component that formed part of the ELISA programme was highly innovative and successful.

Educational technology requires support and training in order to ensure that the end-user benefits from access to technology. Bates (2005, p. 2) emphasises the importance of the implementation of technology as it "is neither good nor bad in itself but it is the way that it is used that matters". Excellence in teaching is a prerequisite to solve the challenges of higher education (Cronjé, 1997). Castells (2001) quotes the observation of Bolt and Crawford in that the effective use of educational technology depends on the efficiency of the teachers. The expertise of an excellent technological team at TUT was available for all the participants for the duration of the course.

5   What dialogue emerges and why does it emerge?

Both globally and locally, educational needs are increasing and Africa is no exception. In South Africa where the majority of the population have been denied tertiary education for many decades, this is even more so. The South African government had identified education as a tool to bring about economic growth and development (Republic of South Africa, 2008a).

Worldwide HEIs are under pressure to provide in the escalating needs and requirements of students as discussed in Chapter 2. The challenges that HEIs are experiencing entail financial constraints, decreasing resources, return on investment (ROI), growing student numbers and increased competition between service providers.

Higher education studies concerning developing countries have become very popular. Edejer (2000), and Costello and Zumla (2000) report on existing North-South research projects concerning medical outreach programmes in Africa. Bates (1997) identified the following important elements of partnerships "market research, strong institutional support, and adaptability to local needs". Nwafor, as cited in (Missen, McNulty, Ibrahim, & Liverpool, 2003) discuss the funding for university libraries in the developing world and accentuates the dire effects of the economic state of affairs for education and academic libraries in the Third World. Nwafor, the librarian of the University of Jos, Nigeria, summarises the predicament as follows: "To say that Third World university libraries are currently (1990) perched on a precipice would not be an exaggeration. In fact, one could go a step further to say that the necessary factors required for the declaration of a library state of emergency are in place". The ELISA project is an example of a mutual partnership with that aim in mind.

One of the principle aspects in outreach programmes is the creation of partnerships. In the ELISA programme the underlying principle was the creation of a partnership that would enable a two-way learning process. Stanford envisaged to provide international expertise to the TUT students and expose them to an exceptional learning opportunity in International Environmental Security. In return, it was hoped that they could learn from their South African colleagues about mobile technologies because this was more ubiquitous in South Africa than in the United States. The pilot phase of the ELISA programme resulted in a successful outreach initiative. The findings will be discussed in chapter 4.

Costello and Zumla (2000) point out that a bona fide cooperative research partnership rests on four basic principles: mutual trust and shared decision making; national ownership; emphasis on getting research findings into policy and practice; and development of national research capacity. Edejer (2000) adds the following to this list: decide on objectives together, divide the profits equitably; and build on achievements. Several of these principles were relevant for the ELISA project.

The funding of outreach projects remains one of the fundamental principles that guide the research. Inequitable funding often poses a dilemma. Clear mechanisms are essential to ensure that funds are managed appropriately. According to Edejer (2000) the management of funding directed towards health research and development is often messed up.

Unequal power relations are often typical of partnerships between developing and developed countries. Outreach negotiations between these participants are often characterised by a dialogue of power. The University of Iowa-Nigeria collaboration is an example of a partnership with such a dialogue. Political and economic turmoil in Nigeria took its toll on the academic environment where information technology has been grossly neglected. According to Missen et al. (2003) the once well-respected Nigerian university system "has been reduced to a shadow of its former self…In the digital realm, many universities represent a blank slate". The University of Iowa initiated a six year outreach project with the University of Jos and a thirty year outreach project with the University of Ibadan both in Nigeria. Since information technology and the Internet offer escalating academic resources Internet access has been identified as an instrument to create upliftment and progress. In South Africa it is particularly "the universities in need, such as TUT and the University of the Western Cape that benefit from such collaborations. However, UP is not regarded as a university of need and does not collaborate with Iowa" (UP team leader, personal communication, September 24, 2008). Unequal power relations between research collaborators create certain risks. (Volmink & Dare, 2005, p. 705) state that "Guidelines on international partnerships in research should, however, help to minimise the danger of scientific colonialism masquerading as research collaboration". Costello and Zumla (2000) argue that the research model remains semicolonial in many instances and they distinguish between a semicolonial model and a partnership model, as illustrated in table 11.

Table 11: Semicolonial and partnership models of research in developing countries

Characteristic	Semicolonial model	Partnership model
Setting of research agenda	Dominated by outsiders	Negotiated with insiders
Links with national institutions and training programmes	Peripheral	Integral
Management	Line management by foreigner	Line management by national or insider
Staff costs	Predominantly foreign salaries, overinflated local salaries	More balanced investment and more sustainable in the long term
Dissemination	Heavily orientated to international journals and conferences	International dissemination balanced by outputs in national or regional journals, and media to reach a wider audience
Emphasis on sustainability and generalisability of research findings	Low	More likely
Influence with local policymakers	Low	High
Effect on national institutions	Negative, attracts best and brightest away from national research institutions	Positive, builds up local academic infrastructure

Source: Costello & Zumla (2000)

HEIs have various incentives to participate in outreach projects. This is according to the motives of the institution. Volmink and Dare (2005) see the publication of journal papers and articles as a significant incentive. Stanford had financial gain in mind, thus the decision to support the outreach project in South Africa. UP aspired to empower the participants and use the outreach initiative as a learning opportunity. TUT's incentive was to expose the students to international environmental perspectives.

6   How is shared meaning created and why is it created?

Cooperation and collaboration are multifaceted concepts and can be interpreted in several ways. Coppola (1996) accentuates the importance of participation in several groups as part of daily life. He quotes Bruffee who propagates John Dewey's phrase: "living an associated life". Shared meaning implies common purposes, common adversaries and common incentives. The process of shared

meaning starts with shared ideas, resulting in various objectives between different people working together in order to reach mutual goals. Shared meaning in the ELISA programme resulted in cooperation and collaborative learning, at least during the start of the pilot phase.

Cooperative learning can be used as a tool to achieve shared-learning goals and shared meaning. Johnson, Johnson and Smith (1998) state that the implementation of cooperative learning at tertiary level originated in the creation of "social interdependence, cognitive-developmental, and behavioural learning theories". The authors quote Koffka who says that groups are "dynamic wholes in which the interdependence among members could vary" (Johnson et al., 1998). Common goals create interdependence among the members of a group. The core of a group is situated in its interdependence. Johnson and Johnson (1994) distinguish between two kinds of social interdependence. Positive interdependence (cooperation) exists when individuals promote interaction and support each other's attempts to learn. Negative interdependence (competition) exists when individuals discourage and hamper each other's attempts to achieve their goal. No interdependence suggests that individuals work independently without any interaction or interchange.

Motivation is a necessity for successful learning, especially online learning (Jalongo, 2007; Kikuchi, 2006; Matsumoto & Obana, 2001). Malone and Lepper (1987) identified interpersonal motivations that were extant in the presence of other people and depended on other people. These interpersonal motivations are cooperation, competition and recognition: cooperation and competition are in numerous ways parallel. Malone and Lepper themselves quote an existing body of literature regarding the following: Cooperation and competition satisfy psychological needs, certain conditions apply under which one or the other takes place, develop in certain ways as children grow up and influence learning tasks in school. Cooperation is often assumed to be good while competition is assumed to be bad. However, both cooperation and competition can be used in ways that have beneficial or detrimental outcomes. The challenge is how best to exploit their motivational power.

Learning tasks can be segmented into dependent units and independent units. According to Malone and Lepper (1987) a spelling task is an example of dependent units as well as independent units. Students can take turns in spelling the following letter in a word (dependent unit) or they can take turns in spelling a complete word at a time (independent unit). With independent tasks, cooperative behaviour can be encouraged by the combination of the scores of the different students (number of words spelled correctly). A technique to encourage cooperative learning in the independent case will be "exogenous" while in the dependent case it will be "endogenous" (Malone & Lepper, 1987, p. 243). Exogenous cooperation will often present a fairly weak form of motivation.

In the ELISA programme for example, the facilitator divided the students into four groups. Every group had to divide a specific article into equal sections that the individual students had to read (dependent

units) and then piece the whole article together, interpret it and give their comments. During a follow-up assignment every student had to complete an individual section (independent units) of a larger assignment. Individually, the students had to use their PDAs to search for different URLs on the Internet in order to mine material that they could use in further assignments and articles. One student was commissioned to compile a master list of all the relevant URLs and distribute this among the students.

Endogenous and exogenous competition may also serve as motivational factors. With independent tasks such as the spelling of a complete word it is easy to encourage competition. The students compare their scores to determine who performed the best. Malone and Lepper (1987, p. 244) quote existing literature that indicate that these "exogenous competitive pressures may stimulate interest during the initial performance, but it appears to have detrimental effects on subsequent intrinsic motivation". Endogenous competition is encouraged when students with conflicting goals work together on dependent tasks and unintentionally help each other.

Recognition is a form of interpersonal motivation that plays a significant role in the design of instructional environments. Recognition involves that we enjoy having our efforts and accomplishments recognised and appreciated by others (Malone & Lepper, 1987). The visibility of results is important and can be done in three ways. Firstly, the process of execution of the activity may be noticeable, for example, artists who paint in public; secondly the outcome of the activity may be noticeable resulting in paintings at an art exhibition; thirdly additional results of the activity may be noticeable, for example published names of artists in a competition or contained in an art catalogue. Similarly, in the ELISA programme it was possible to observe the students searching for the relevant URLs on their PDAs. This activity resulted in the master URL list that could be visibly followed. Additional results would arise in articles that they wrote, using the information obtained from the master URL list. Shared meaning was created through the students' participation in the activities. The facilitator gave mild recognition to each of these activities, thus motivating the students to continue searching for information for further use in their careers.

According to Malone and Lepper (1987, p. 244) endogenous and exogenous recognition are important interpersonal motivations. They assume that endogenous recognition is "natural to the activity" and will have a stronger motivation for the "development of a global mass culture". Anti-globalisation advocates argue that learning process. Examples of endogenous recognition involve class newspapers, art exhibitions, musical recitals and speeches (Malone & Lepper, 1987). An example of exogenous recognition is the publishing of a roll of honour.

Apart from the fundamental mutual goal on both sides, there were individual goals that played a role in the implementation of the programme. Stanford was committed because of the prospect of

cooperation with TUT and UP in creating, designing and evaluating a wide-ranging and suitable e-learning programme in a specific area of the globe. They hoped to implement international policy to alter national behaviour in South Africa with scholarships and to create new partnerships. They aimed to transcend conventional academic boundaries by making their research available to two South African HEIs. They attempted to advance Stanford's international profile through the provision of resources, expertise and answers. Stanford's commitment resulted in the grant of $485,000 for the entire three year period. Stanford was also interested in the transfer of South African knowledge, expertise, and know-how to the United States. They envisaged an exceptional two-way learning process to learn about the use of mobile technologies in South African HEIs. The South African counterparts wanted to participate in the programme because of the opportunities that could result from it. TUT and UP were interested because it was a unique learning opportunity for journalism students and it could help them to complete their studies. The enriching perspectives that they would obtain could be of use in their future careers. The academic and research teams realised that this two-way learning process provided the opportunity for research at post-graduate level. This could result in learners' articles contributing to shared meaning and the existing body of knowledge on the subject.

7   How do we deal with cultural differences?

Inglehart and Carballo (1997, p. 37) point out that different coherent cultural regions have citizens with specific values and worldviews and "that make them think differently and behave differently from citizens of other cultures". Schein adds to this point of view by saying that at the root of any complex issue "we are likely to find communication failures and cultural misunderstandings" (Schein, 2003, p. 27).

Since culture is a way to describe human behaviour (Barth, 1998), it follows that a learning culture is a way to describe the behaviour of people that are attached to a specific HEI. During the progress of the course it became clear that a definite homogenous Stanford culture versus a hard-to-define TUT-and-UP-culture exists.

According to Bates (1999) a number of social and cultural issues arise as soon as educational programs cross borders. Meijering and Van Der Hoven (2003) accentuate the phenomenon of *cultural baggage* that 22 IT professionals encountered on different sides of German society. Callahan (2006) explores cultural differences and similarities in the design of university web sites for such places as Malaysia, Austria, the United States of America, Ecuador, Japan, Sweden, Greece and Denmark. These web sites are compared to shed light on the question of whether the design of web sites in different cultures is distinct or do they follow similar trends? The role of these differences and their practical consequences are also explored.

Different cultural values between nations and organisations exist and are maintained world-wide. Much of the existing literature emphasises cultural diversity and influence (Barth, 1998; Costello & Zumla, 2000). In order to deal with cultural differences it is necessary to scrutinise cultural identity. Hall (1990) discusses cultural identity, cultural representation and states that there are two ways to define cultural identity: similarities and differences. Firstly, similarity involves a shared culture, a oneness that recognises the numerous points of similarity between people. It underlies the similarities that people with a shared ancestry and history have in common. Secondly, there are crucial points of difference which represent "what we really are...what we have become" (1990, p. 225). People are positioned by, and position themselves in different ways within the sequence of events of the past. Differences are inscribed in cultural identities. Hall concludes by saying that the otherness results in the marginalisation of the underdeveloped people, the 'other' – "always 'South' to someone else's El Norte" (1990, p. 228).

Cultural differences are also prevalent in higher education and present several challenges in higher education spheres. One of these challenges is how to operate in a global environment while remaining attentive to the needs, capacities, traditions and values of particular countries and cultures (Halimi, 2005). Given the debate on cultural differences as discussed in chapter 1, the position of this study is that of support to the Hofstedian argument, highlighting the situational reality of South Africa and the importance of an African perspective. The emphasis of this study is about the differences and the commonalities between the two cultures that are involved. The question thus remains valid: How do we deal with cultural differences?

There exists a divide amongst people from different cultures and traditions. However, the emerging interconnectedness of the world results in the phenomenon that the world is getting small, compressed and therefore more connected. In order to deal with cultural differences it is essential to have an awareness of other cultures and try to understand them. Furthermore, it is vital to engage with people from countries other than the United States in order to gain insight into their backgrounds (Stanford team leader, personal communication, 2006). The Stanford team leader emphasised that due to the regional isolation of the United States more emphasis could historically have been placed on looking beyond the borders of the United States. International related studies was characterised by a very Amero-centric perspective. The development of interdisciplinary country-studies programmes at Stanford facilitated the process to "get people to think outside of the American centre".

An awareness and understanding of cultural differences goes beyond the mere translation of study material. Tomasulo (1999, p. 1) states that "The advent of the world wide web and instant language translations have simultaneously shrunk our world and made the understanding of other cultures a necessity". According to the Stanford team leader (2006) translation may result in the loss of the meaning of the word, as well as the loss of the connotation and cultural setting. Language that is very

E-learning Initiative in South Africa (ELISA)

specific as to content is characteristic of a specific discipline and mostly difficult to translate. With regard to the programmes that Stanford launched in Russia they found that Russian students wanted to learn about America and the American perspective. However, they wanted to learn that in English because that is how they understood American culture. They first wanted to learn that, then translate the material and then compare it with their own perspectives. The advisory board at Stanford also identified the problem that some post-graduate students did not have an understanding of other cultures. This resulted for example in the inclusion of a two year mandatory foreign language course as part of an engineering degree.

Globalisation represents two sides of a coin: the other versus the own national identity and traditions. Globalisation can be seen as contradictory to nationalism. Globalisation (as discussed in the previous section) refers to "The increasing extent, velocity, and impact of world-wide interconnectedness" (Held & Hirst, 2005). Nationalism refers to "the promotion of the culture, economy and national interests of one nation as opposed to subordinate areas or other nations or supranational groups or organisations" (Stetar, 2000). Both the concepts globalisation and nationalism are central in the endeavours to deal with cultural differences.

The Internet plays a dichotomous role in the process of globalisation. On the one hand the Internet can be regarded as a tool to promote the homogenization of cultures (Callahan, 2006). This is done because the Internet is "an ideal medium for reaching beyond domestic markets in order to disseminate products to hitherto foreign markets" (Würtz, 2006, p. 275). A global commercial culture develops where international brand names and products such as Coca Cola, Kentucky Fried Chicken and KFC and Nike are globally known and accepted. In the higher education domain an increase of new contributors, cross-border supply and increased electronic delivery of education takes place (McIntosh, 2005). Larsen et al. (2002) report that the Internet facilitates traded educational services.

The Internet on the other hand, can serve as a tool of globalisation that generates challenges to national identity and local culture. The Internet can also develop in a powerful tool of global domination (Hongladarom, 2002). Global competition emerges "in the political, economic and cultural domains which are challenging old hierarchies" (Lemmer, 2001, p. 22). Global cultural communications can lead to the erosion of ethnic identity and result in a loss of local culture. National traditions and cultural values are threatened by increasing trade liberalisation in educational facilities (Larsen et al., 2002).

The dilemma of globalisation, however, occurs "when a local culture faces the need to merge with the globalizing tide but at the same time feels that it needs to protect its identity and tradition" (Hongladarom, 2002, p. 244). According to Lemmer (2001, p. 19) the aspiration for nationalism is powerful and not likely to be eroded by the "development of a global mass culture". Anti-globalisation advocates argue that certain countries strive to maintain their own unique cultures where nationalism

is the determining factor. Globalisation is characterised by new flows of information that strengthen differences and "the awareness of the 'other'. Thus, local and national culture remains robust" (Lemmer, 2001, p. 19). Piazolo (2001) reports on the success of villages in the developing world that offered their products to clients in the developed world due to lower entry barriers, less obstacles combined with advanced contact facilities supplied by the Internet.

Local cultures can be preserved without citizens having to seek other destinations or emigrate to foreign countries. People can survive and thrive in their own environment while they are able to innovate, secures cultural diversity. This phenomenon is also viable in the educational sphere. The Stanford team leader (Personal communication, April 24, 2006) referred to the virtual online business courses that the Universities of Phoenix and Duke offer. The students that enrol at these institutions are able to stay in their native region while obtaining their qualifications.

Much of the current existing literature emphasises examples of intellectual colonisation. Hongladarom (2002, p. 241) reports that the Internet is an influential agent of globalisation both in cultural and ideological terms. Local cultures find it difficult to "resist integrating itself with the world through the Internet, but at the same time they feel a real need to protect and promote their identities". Maynard (2003, p. 57) points out that glocalization challenges ideas of cultural imperialism because the word suggests "a negotiation process that appears to start from the inside out, i.e., a process that begins with a high regard for the local. The term 'glocalization' connotes a successive development, as well as a challenge, to the top-down hegemony implicit in the term 'globalization'". Shakuntala (2008) states that Indian audiences accept, resist and show pleasurable responses to variations in Bollywood films. These reactions pertain to clothing, music, dance, settings and locales. Indian audiences accept Westernization to a certain extent but demand "Indianness" whereby Indian values are upheld and reinforced. Nyamnjoh (2004, p. 37) examines the paradoxes of globalisation "as a process of inclusion and exclusion, empowerment and enslavement, citizenship and subjection, hope and disappointment". Africans manage to manoeuvre and manipulate but refuse to surrender and internalise to marginalisation by developed countries. These developed countries are often weakened by financial motives of global capital.

The globalisation of the local results in glocalisation, a term that refers to the "fusion of global and local forces and interests" (Ramutsindela, 2004, p. 61). The author adds that glocalisation involves the extent to which global forces influence several processes at the local level, or vice versa. These include economic, social and political processes. An example of such glocalisation is the link between the University of Dar Es Salaam, Tanzania and various HEIs worldwide. The Tropical Biology Association in Tanzania collaborates with Natural Science Departments in Ireland, Italy, the Netherlands, Poland, Portugal, Sweden, Switzerland, the United Kingdom, and the United States (Tropical Biology Association, 2005).

Examples of glocalisation are found in many countries where globalisation initially influenced the local societies. Yet local cultures found a way to retain their identities. In Bollywood films producers ensure that although certain elements of a film are typically Western, Indian cultural values are still reinforced (Shakuntala, 2008). The storyline and theme of a film may originate in Hollywood, the clothing may be denims and shorts, but the drum that plays the background music represents Indian civilization. Bollywood films always emphasise familial emotions as opposed to some Hollywood films that lack familial emotions. In Malaysia and Singapore examples of glocalisation are evident in some architectural designs (Khondker, 2004). The public housing programme in Singapore uses the international style of straightforward and practical designs. A concept of public space was thus introduced to the occupants of these housing blocks. Public spaces called void-decks were built and served as venues where communal gatherings such as weddings or funerals took place. Western and local Singaporean motifs were thus combined to form a new design. Another excellent example of glocalisation is the accommodation of Gillette's Sensor Excel shaver for ladies in Japan (Maynard, 2003). In 1997 Gillette as a global brand used an introductory tone to emphasise the newness of a razor for ladies in the United States. In the Japanese advertisement the emphasis was on the end benefits such as prettiness and the pleasant feeling that the product created. Where the United States advertisement read as hard news, the Japanese advertisement concentrated on intimate rapport with ladies. The ELISA students suggested their own glocalisation endeavours. They accessed the learning material, developed a perspective on local environmental issues at hand and created their own South African perspectives in editorial pieces. Some of the students even raised the possibility of submitting these editorial pieces to the international Society of Environmental Journalists.

8   Critical analysis

8.1   Direction of funds

Funding is one of the key elements of partnerships. A critical analysis of the literature revealed that there is a critical misunderstanding regarding the way that financial resources intended for research and policy making should be directed. Volmink and Dare (2005) emphasise this premise by stating that "Furthermore, there must be clear mechanisms to ensure that some funds for research are directed to strengthening the capacity to conduct research, manage research (by establishing processes to handle grant funding)".

Much of the significant body of literature on partnerships reveals that providing countries often promise large amounts of money to receiving countries (Isaksson, 2002; Oyelaran-Oyeyinka & Lal, 2005; Samoff & Carrol, 2002). However, much of the literature also reveals that the earmarked financial aid [sometimes] never really reaches the receiving country. Ngambi and Katembo (2006, p. 44) state that the allotted money "merely is recirculated back to the origin point donor country via their national

corporations". Samoff and Caroll (2000) determined that the Tertiary Education Linkages Project (TELP) began in 1995 as an initiative to empower black South Africans by way of tertiary education. The aim was to make tertiary education opportunities and resources available in order to improve academic, administrative and research capacities in previous historically disadvantaged HEIs. The USAID commitment to TELP was estimated at US$ 50 million, of which about 50% had been disbursed by 2000. Seven previously disadvantaged South African HEIs were linked to partner institutions in the United States. It was found that "almost $6 million of federal funding was spent on the linkages project, with matching grants for about $3.6 million from the United States partner institutions". An in-depth evaluation of the expenditure patterns for five of these HEI partnerships revealed that about 60% of budgets were allocated to personnel expenses such as salaries, fees, fringe benefits and travelling costs. Mid-term financial statements indicated that one of the host partners in the United States "wanted to keep 98% of the partnership for its own use".

Another example that emphasises the way in which funding is directed is the review of North-South cooperation that was done by Chandiwana and Ornbjerg (2003). The authors extracted pertinent aspects of 21 years (1981-2001) of scientific collaboration among Zimbabwe's Blair Research Laboratory, the Biomedical Research and Training institute and the Danish Bilharzias Laboratory. They found that financial resource flow needed for research in Africa amount to $100 million per annum "but less than a fraction of this amount is currently [2003] available" (Chandiwana & Ornbjerg, 2003, p. 295).

It is thus obvious that adequate financial resources are made available to North-South partnerships. Such resources should [also] be used to develop and sustain research as well as technical expertise in the receiving country. However, the literature fails to explain what action can be taken to ensure that the aid is allocated correctly and that these resources remain available to the receiving partners.

E-learning Initiative in South Africa (ELISA)

8.2   Interpersonal differences

One of the basic elements of partnerships is power relations between the providing country and the receiving country. Much of the existing literature emphasises the fact that the equality of power relations depends on the type of partnership. Oyelaran-Oyeyinka (2005) identified the following 3 broad types of partnerships: First, the principal partner controls resources and makes the decisions regarding information needs, performance assessments, actions and sanctions. Subordinate partners have no independent access to resources, respond to information requirements and carry out decisions and instructions. Second, a consultative relationship between the partners allows the leader to control resources and make decisions regarding information needs and actions. The stakeholders carry out decisions, supply information and give opinions on priorities and resources. Third, a coalition relationship is established between the managing partner and partners. The managing partner is responsible for negotiation, consensus building, and an iterative process that is responsive to change. The focus of the partnership is on shared agenda, mutual interests, collective responsibility and joint ownership of the material. Aspects of each of these relationships are often found in different partnerships. Bates et al. (1997) refer to the developing international partnership between the prestigious Monterrey Institute of Technology in Mexico and the University of British Columbia. He emphasises that a real feeling of mutual respect is immensely helpful in order to establish successful personal relations in partnerships. Costello and Zumla (2000) accentuate mutual trust and shared decision making as part of a successful partnership.

Despite all the information on the influence of power relations in partnerships the literature fails to explain how differences of opinion and undercurrents among team members and project leaders throughout the project can be resolved.

8.3   Curriculum innovation and contextualization

Curriculum design in partnerships is of vital importance. While this process is specified by the type of partnership I found a gap in the literature regarding curriculum specifications where a coalition relationship is established. Samoff and Carrol (2002, p. 35) state that "Research on education has become one of the major forms of influence in education in Africa". This statement verifies the idea that the curriculum bears the strong imprint of the providing partner. Much of the existing literature reports on examples of the implementation of off-the-shelf programs. Altbach (2004, p. 8) reports on transnational higher education initiatives where the northern partner almost without exception is the dominant partner. He summarises as follows: "There is often little effort to adapt offshore programs to the needs or traditions of the country in which the programs are offered-they are simply imported intact". Similar to this notion Stanford offered an existing international security course to nine Russian

HEIs. Samoff and Carrol (2002, p. 70) refer to the inequality regarding curriculum development by saying that "curricular innovations originate in the United States and are often quite inappropriate to the African setting".

While it is obvious that the curriculum should be modified, customized and contextualized to be valuable and appropriate to the receiving partner, the available body of literature has little to say about how curricular innovation and continuing efforts to update the content should take place.

9   Which aspects of the process worked well and why and how can they be improved to compensate for those that did not work well?

Several positive aspects characterised the programme. These included the following: national ownership; interpersonal relationships; combination of course material; content and workload; critical thinking skills and dispositions; Internet use; and feedback and motivation.

9.1   National ownership

National ownership of the curriculum was one of the most important aspects of the ELISA programme. The students had the opportunity to make the learning material their own and this had a significant effect on them. Stable technology is indispensable but difficult to obtain (UP team leader, personal communication, September 24, 2008). The students were extremely excited about the successful implementation of technology such as the use of i-mate PDAs; the use of WebCT6 as a learning management system; and the participation in video conferences.

The ELISA programme is an example of students learning via the media. Much of the existing body of literature refers to the effect of media on learning (Carter, 1996, Clark, 1983, Kozma, 1994). Clark's well-known delivery truck metaphor (Kozma, 1994) illustrates the No Significance Difference Phenomenon. Clark states that "Consistent evidence is found for the generalization that there are no benefits to be gained from employing a specific medium to deliver instruction" (Clark, 1983, p. 445). However, the debate about whether media will affect learning continues and was not relevant to the ELISA programme. The attention was directed towards learning with and through media such as WebCT6, i-mate PDAs and the video conferences. The focus was thus not on employing different media in the learning process but on the media "as a complementary process within which representations are constructed and procedures performed, sometimes by the learner and sometimes by the medium" (Kozma, 1991).

9.2   Combination of course material

The combination of the delivery of course material proved to be very stimulating and motivating. E-resources such as CD-ROMs and the Internet, printed material obtained from prescribed books, face-to-face contact sessions and interaction through WebCT6 and the PDAs, contributed to valuable learning experiences. The video conferences between Stanford and TUT permitted cooperative learning and group interaction of the students with the academic, research and technical teams. This turned out to be a first for many of the students and resulted in an enriching and enlightening learning opportunity. The integration of the high-end i-mate PDAs was a new experience for the students and one of the highlights of the course.

It encouraged student-centred learning through the design of a "virtual fieldtrip" (Ray, 2002) where the students had to use their PDAs to access course web pages and download sites. The use of the PDAs as data-collection tools (Bent, Bolsin, Creati, Patrick, & Colson, 2002; Bertling et al., 2003) proved to be very significant. It resulted in a valuable class discussion and a synthesis of all the web addresses and correct URLs for further use in assignments and articles. During this face-to-face workshop that a Consulting Associate Professor of Stanford facilitated, she announced that she will sponsor each student with a one year subscription to the Society of Environmental Journalists. This initiative served as an additional external motivation and the students experienced this outreach gesture as exceptionally generous.

9.3   Critical thinking skills and dispositions

The development of critical thinking skills was one of the positive aspects and one of the main objectives of the ELISA programme. It is also a common goal of various disciplines (Colucciello, 1997; Gokhale, 1995; MacKnight, 2000). According to Paul (1990) knowledge and thinking cannot be separated. He adds that "knowledge, by its very nature, depends on thought. Knowledge is produced by thought, analysed by thought, comprehended by thought, organized, evaluated, maintained, and transformed by thought".

There are many definitions of critical thinking and these emphasise the importance of its role in the learning process. The Foundation for Critical Thinking at the University of California, Berkeley, US, accentuates the significance of teaching critical skills and hosts workshops to advance intellectual engagement. Dr Richard Paul, Director of Research and Professional Development, conducts these workshops and defines critical thinking as follows: "Critical thinking is disciplined, self-directed thinking which exemplifies the perfection of thinking appropriate to a particular mode or domain of thought. It comes in two forms. If disciplined to serve the interest of a particular individual or group, to the exclusion of other relevant persons and groups, it is sophistic or weak sense critical thinking. If

disciplined to take into account the interests of diverse persons or groups, it is fair-minded or strong-sense critical thinking" (Paul, 1990). Since the focus of this study is on commonalities as well as cultural differences that exist between different people this connotation of the definition of critical thinking is relevant to the ELISA programme.

Critical thinking skills entail clear, precise, logic, reflective, consistent, and accurate thoughts. It was indispensable for the participants in the ELISA programme to develop critical thinking skills. According to Paul (1990) adequate command of the elements of thought enables a person to develop "an understanding of and an ability to formulate, analyse, and assess the problem or question at issue; the purpose or goal of the thinking; the frame of reference or points of view involved; assumptions made; central concepts and ideas involved; principles or theories used; evidence, data or reasons advanced; interpretations of claims made; inferences, reasoning, and lines of formulated thought; and implications and consequences which follow". The workshop that a Consulting Associate Professor conducted afforded the ELISA students the opportunity to analyse and assess various environmental issues and formulate possible solutions. This cooperative learning process involved small group discussions during which the students had to analyse information, construct their own understanding of the issues, share their ideas with the members of their group, and give feedback to the rest of the students. This active exchange of ideas increased interest among the students and encouraged critical thinking (Gokhale, 1995; MacKnight, 2000). Critical thinking skills can always be fostered to compensate for the less successful factors.

9.4   Internet use

The digital revolution is changing all facets of everyday life resulting in different ways that students "gather, accept and retain information" (Tapscott, 1998, p. 2). Digital literacy is regarded as a "life skill" similar to literacy and numeracy (Department of Education, 2004a). Much of the existing literature emphasises the importance of Internet access (Ferlander & Timms, 2006; Kozma et al., 2004; Kubichek, 2004).

Some of the students experienced the use of the Internet as positive and constructive for research purposes. They reported that they enjoyed the fast access and connectivity at home and/or at work. Students could however, also use their PDAs to get fast wireless access. The relevance of Internet literacy and access in the ELISA programme is fully described under efforts to bridge the Digital Divide (Chapter 2, 2.2). Internet access can certainly be improved to compensate for negative factors.

E-learning Initiative in South Africa (ELISA)

9.5 Feedback and motivation

Both feedback and motivation were positive aspects in the ELISA programme. The teaching assistant who graded the students' assignments was responsible for feedback to reflect on the students' work. This online, asynchronous communication supported critical thinking. The students also used WebCT6's Bulletin Board to communicate with fellow students and to provide and accept feedback. According to (MacKnight, 2000, p. 39) faculty has a responsibility to support disciplined discussions by "maintaining a focussed discussion; keeping the discussion intellectually responsible; stimulating the discussion by asking probing questions that hold students accountable for their thinking; infusing these questions in the minds of the students, encouraging full participation; and periodically summarizing what has or needs to be done". A Consulting Associate Professor's workshop on Environmental Sustainability was an excellent example of all these actions.

Motivation was one of the main aspects that inspired the students to complete the programme. Despite numerous barriers that they encountered as working students, all fourteen students received their certificates after completion of the programme. The teaching assistant motivated and encouraged the students on a permanent basis to collaborate and make the best use of the opportunity. On the South African side the TUT leader, the Head of the Journalism Department, the TUT technical assistant and I supported the students to make the most of this unique learning process. Motivation as a necessity for successful learning is fully described under the heading *How is shared meaning created and why is it created* (Chapter 2, 6).

10 Which aspects did not work well and why and how can they be improved?

Several aspects of the process did not work well. These included issues such as the initial agreement between UP and the University of Limpopo; unequal power relations; dismantling of prejudice; and the joint long-term project development.

10.1 Initial agreement with the University of Limpopo

The University of Limpopo and TUT were identified as possible partners in the intended outreach project. Representatives from UP, TUT and the University of Limpopo were invited to participate in an information sharing meeting. These representatives were invited because they represent diverse attitudes and mind-sets. The agreement between UP and the University of Limpopo went wrong from the start. According to the UP team leader the representatives of the University of Limpopo "were

under the impression that UP wanted to impose on them [and] saw themselves as guinea pigs with no say in the matter" (University of Pretoria team leader, personal communication, September 24, 2008). A professor of the University of Limpopo made it clear that they would not benefit from such an outreach initiative and declined the offer.

10.2   Unequal power relations

Unequal power relations are often typical of partnerships between developing and developed countries. The ELISA programme is an example of a partnership with a dialogue of power. The South African representatives did not agree to the exclusive influence of Stanford. They were of the opinion that "they could easily have turned down the offer of the outreach programme" (University of Pretoria team leader, personal communication, September 24, 2008).

10.3   Dismantling of prejudice

The background dialogue of power resulted in prejudice among the Stanford representatives (University of Pretoria team leader, personal communication, 2008). Initially they doubted whether the programme would be successful in South Africa. However, they were amazed by the knowledge, skills and expertise of their Southern counterparts. The South African representatives were frustrated with Stanford's widespread impatience and inadequate sources. They speculated on whether they shouldn't have implemented the programme themselves.