

**THE DEVELOPMENT AND TECHNOLOGIZING OF SELECTED SEPEDI ICT
TERMINOLOGY**

THESIS

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DECLARATION

I the undersigned, hereby declare that this thesis is my original work and has not, in its entirety or part, been submitted at any University for a degree.

Signed: M. Gagne

Date: 13 January 2011

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ABSTRACT

The purpose of this thesis is to develop and technologize certain Sepedi language ICT terms in order to ensure that the Sepedi speakers have access to Sepedi ICT terminology and on-line dictionaries.

Many ordinary Sepedi speakers are not able to access such technologies due to lack of understanding of certain concepts in their own language, or through the medium of English if they do not have an adequate command of this language.

Even though some Sepedi scholars have endeavored to provide terminology and on-line dictionaries that are necessary for technologizing the Sepedi language, a number of problems still exist within the technical elaboration and development process.

It is my wish that the Sepedi language speakers, through the development and technologization of certain Sepedi ICT terminology, are able to operate a computer in their own language, and implement the new developed and technologized ICT terminology (technologization). The pupils and students at their various institutions should be made comfortable in using the developed and technologized Sepedi language terminology. In the long run the Sepedi language speakers should be ensured access to the web in order to find information about Sepedi language, culture and terms in disciplines such as ICT.

It is recommended in this thesis that higher learning institutions offer bursaries to students to develop all South African languages in such a manner that they can be used in all high status functions.

CHAPTER 1

INTRODUCTION: LANGUAGE PLANNING AND POLICY IN SOUTH AFRICA

1. HISTORY OF LANGUAGE POLICY IN SOUTH AFRICA

1.1.1 PRE 1994

The aim of this thesis is to explore the intellectualization of Sepedi and to analyse the process of creating selected ICT terminology against the backdrop of the history of language planning in South Africa. Chapter 1 explores the history of language planning and how language planning has been effected generally in the country within the education system, the economy and society in general.

When the National Party came to power, the development of high levels of proficiency in African languages among black people was facilitated. Blacks were encouraged to use their African languages as a mechanism to identify individual members of the various ethnic groups in terms of the policy of divide and rule (Herbert, 1992).

According to Jordan (1957; 1958) the government called for the unification of the dialects of the African languages to be divided into dialects associated with Nguni (i.e. Zulu; Xhosa, Southern Ndebele, and Swati), Northern Sotho, Southern Sotho and Tswana were to be grouped as Sotho. The black people were stripped of their South African citizenship and forcefully removed to the various Bantustans according to their different language groups, for instance Lebowa (Northern Sotho), Gazankulu (Xitsonga), Venda (TshiVenda), Bophuthatswana (Setswana), Qwa-qwa (Sesotho), Zululand (Zulu), Transkei (Xhosa), Ciskei (Xhosa), Kwa-Ndebele (isiNdebele) and Kangwane (isiSwati).

The year 1994 was significant in South Africa's political development; it saw the abolishment of apartheid and the election of the first truly democratic government. Amongst the most significant initial changes was the introduction of a new education curriculum:

...the reconstruction of the curriculum for the schooling and for other contexts will be essential in order to rid the education and training system of the legacy of racism, dogmatism, and outmoded teaching practices. (DOE 2001:10)

The central defining factor for the education system in South Africa, was the education policy applied under the apartheid government, this policy delivered and funded schooling according to racial groupings. "Schools for White learners were significantly better resourced in terms of facilities and teachers, than what schools for Black African learners received, with Coloured and Indian schools falling in between" (Hlatshwayo, 2000:18).

Heugh (1999:302) summarizes Bantu Education for African language speaking students as encapsulated in the Bantu Education Act of 1953:

- A primary school curriculum which would prepare students for their subservient role in society, in contrast to the more academic curriculum in "White ", "Coloured" and "Indian" schools
- MT instruction to the end of the primary phase (8 years) for reasons which were designed to further separate development and prevent African language speaking students from developing ambitions outside their own communities;
- The introduction of Afrikaans and English as subjects in primary school;
- The switch of medium of instruction in secondary school to both Afrikaans and English (in equal proportions);
- A secondary school curriculum similar to that in "White" schools, but available, in reality, only to the small proportion of students who had

not already dropped out of the school system at some point during the primary phase.

It is clear from the above that official language policy in South Africa has been interwoven with the politics of domination and separation, divide and rule, resistance and affirmation. Such struggles have been waged by Afrikaners against British cultural and political imperialism and by blacks against Afrikaner-dominated White baasskap (Kallaway, 2002:164).

The effect of South Africa's official language in education policies has been to promote one-way communication, on terms set by the white minority. "The imposition of Afrikaans as a compulsory language medium of instruction in black schools was the trigger which detonated the most sustained struggle against the whole system of apartheid education, beginning with the mass protest of the Soweto students on 16 June 1976, which ultimately shook the very foundations of the apartheid state" (Kallaway, 2002).

In the Bantu education system learners were not allowed to question teachers' knowledge, limiting learners' abilities to develop as critical thinkers. Teachers' language in the classroom took the form of command and prescriptions. The results of this teacher domination inevitably produced passive, dependent learners - the opposite of what the schools should foster, consequently "rote" learning became the order of the day. In black schools the majority of teachers were not qualified and/or were under-qualified to teach their respective subjects. Significant deficiencies existed in commerce, science and mathematics, and the teaching of English suffered from similar shortcomings. Dahlin and Regmi (1995), argue that students were shaped to conceptualise learning as "being taught", as learning meant being taught by someone without being critical and vocal in the learning process.

In terms of the pedagogic process within the system, Biggs (1999) identified teachers who teach in "piecemeal" fashion: providing "lists", not bringing out the intrinsic

structure of the topic; assessing for independent facts, promoting surface approach learning. Students themselves learned with an intention of reproducing “facts” and to achieve a minimal pass, and also to get the tasks out of the way, while appearing to meet the requirements through the memorization process.

In terms of the theory of language planning pertaining to the above, Reagan (1986) identifies four ideologies underlying language planning: Assimilation, Pluralism, Vernacularisation and Internalization. Reagan’s illustration of pluralism entails both the acceptance and presence of linguistic diversity in society, and commitment through policy frameworks to allow for the maintenance and cultivation of the different languages on a reasonable and equitable basis. Reagan believes the policy of pluralism operated in South African education only to a limited extent. Vernacularisation is characterized by the centrality of indigenous languages in the language policies pertinent to a group of people. Reagan describes internalization as referring to the adoption of a non-indigenous or exoglossic language for wider communication within indigenous communities. Assimilation is grounded in the belief that in a society every person should be able to function effectively in the mother-tongue regardless of the individual’s background.

In contrast to Reagan, Herbert (1992) states that pluralism and vernacularisation were promoting apartheid ideals, whereas assimilation was for economic convenience for the liberation movement. Assimilation is associated with unity and vernacularisation is for the purpose of calibrating social and linguistic status. Under apartheid, the use of the vernacular in schools was then to achieve specific purposes of separate development, whilst limiting access to English on the part of black people.

According to Troup (1976) the apartheid South African government had sought to impose mother-tongue instruction on the African people as a means of inculcating tribal consciousness, perpetuating tribal division and reinforcing the gap between black and white and vice versa. In support of Troup, Herbert (1992) states that

language policy is not intrinsically bad but may be good and bad in terms of its human consequences within the specific socio-political milieu which it occupies.

Alexander (1989) expands on this when he observed that the vernacular languages must be promoted, for example, the standardization of Nguni, Sotho alongside English. Alexander (1989) proposes that English serve as a linking language in conjunction with regional African languages. He insists upon rehabilitation of the status of African languages, and took it as a matter of policy within the African National Congress (ANC) proposals. Both the Azanian People's Organization (AZAPO) and the Pan Africanist Congress (PAC) ascribes to Alexander's early proposals of language in 1989. He calls for multilingual education and his language policy and planning were historically very central to government policy developments (Alexander 1989).

Alexander argues strongly that top-down language planning activities is defective, and that they are too centrally controlled by the government. He points out clearly that language policies of the two major negotiating partners, that is the ANC and the National Party are top-down in orientation. In summarizing his proposals Alexander states that the function of languages at national and regional levels should be delineated and English should be adopted from an instrumental point of view as the lingua franca with the aim that another South African language might subsequently occupy its role. The policy entails multiculturalism. Alexander (1989) plays an important role in establishing the National Language Policy (NLP).

One of the striking points of language policy in South Africa is that the middle class is valued differently from the working class, with the working class becoming, consequently, disadvantaged. The middle class and the working class codes were spoken in English and African languages respectively (See Alexander, 2002.) English became more highly valued more African languages. Heugh (1987) argues that the western economy is often accompanied by linguistic racism which places a high status on English and low status on other languages. In most cases English is highly elevated; it is an international language, it is the medium of higher education, and it

is the language of the middle class. These factors all contribute to its elevated status within wide sections of the community, immaterial of their mother tongue status.

Herbert (1992) unlike Heugh feels that one solution should be the Africanization of English, hence obviating the importance of learning from an L¹ (First Language) speaker. However, the absence of L¹ speakers undermines the motivation for speaking or learning English in any particular context and black working class children will not emerge speaking a type of “Aflish” with very little English. He feels that access to English can be improved through adult education units, or through affirmative action when deracialising education and delegislating group areas. The status of English and African languages can be addressed through teaching methodologies which encourage a difference rather than deficit view of devalued varieties, through the elaboration of the pedagogical and codified literacy resources of African languages, and through a rise in the socio-economic status of African language speakers.

Against this backdrop, it was felt that the standardization of Nguni or Sotho would improve the commercial viability of the languages, thereby improving their ability to withstand the pressures of English. Phillipson (1988) further argues that English language teaching has failed internationally. According to Phillipson, English language teaching fails because linguicism operates covertly to ensure that the Third World education system follows Western models, advantaging an elite class and disadvantaging the majority, through the use of English. The vast majority of children then get little benefit from schooling, either in terms of acquiring the necessary language proficiency or in terms of the content (See Dalvit, Murray and Terzoli 2009). The languages of low status are given little validity in the education system and, consequently, knowledge which children have in these languages is ignored in the schooling system. Transitional language programmes and curricula make little provision for transfer of knowledge and cognition from the first language to the second, and this is likely to impair cognitive development. As a consequence, these language programmes are active agents in perpetuating the myth that bilingual learners are intellectually deficit.

According to Skutnabb-Kangas (2000), additive bilingualism is the only feasible model of language education. She argues that in order to participate democratically in community affairs one needs to have a linguistic proficiency that will enable one to negotiate and influence. She points out that the only way for this to be effected in multilingual societies is by means of bilingual education. Additive bilingual programmes are those in which a second and even third language is added to a repertoire of language systems whilst sustaining the first or primary language system throughout the schooling systems. Cummins (1988) added that teachers who add a second language to their student's first language or repertoire of languages will advantage their students far more than those who replace or remove their students' first language and culture. Cummins like Heugh (1992) said that there was evidence to show that children who are bilingual or multilingual have cognitive advantages over monolingual children. Lockett (1992) proposed an additive bilingual education model for South Africa that defines additive bilingualism as a form of bilingualism in which the person's first language is maintained while adding competence in another language.

According to Heugh (1987:334) subtractive bilingualism and transitional bilingualism in the education context is as follows:

- *Subtractive bilingualism* is regarded as a process whereby the first language is removed from the educational environment of the student. The speakers of the language continue to use it in informal community context.
- *Transitional bilingualism* is a subset of subtractive bilingualism in a transitional bilingualism; the first language is replaced by another language perceived to have greater educational value.

These programmes are usually accompanied by western curricula and value systems, which do not validate the knowledge a child brings to the classroom about his/her

own community value system, history and culture. There are features of knowledge which the child brings to the classroom in his/her first language, furthermore, the denial of the child's knowledge is easily transferable to negative values accorded to the child's home, family, environment and culture.

Prior to the tabling of the interim constitution on 13 December 1993, the language policy options in South Africa were as follows:

Option 1

The retention of the status quo, more or less, but through an assimilation position of drawing the subordinate groups in beneath the dominant elite.

- a) The retention of English on its own, an official language, with secondary status afforded the other languages.
- b) The retention of Afrikaans, on its own, as an official language as proposed by far right wing political grouping.
- c) The retention of Afrikaans and English as two official languages, with the other languages accorded secondary status (Heugh, 1987:340).

Option 2

The laissez-faire position, which is that all South African languages should have equal status, without the necessary attendant planning strategies to implement such policy.

The ANC's official position was that the reality is that English has a dominant position in relation to the economy, with Afrikaans having some status. The principle of language as a right was established with the articulation of the Freedom Charter of 1955, and it continues to guide ANC language policy today.

Constable and Musker (1993) indicated that during the period from 1990, the misconception about the role of English as a language of liberation and potential lingua franca took root and flourished. The rejection of Afrikaans as a medium of instruction in the middle 1970 by the students from the black consciousness

tradition had an effect of advancing the position of English and diminishing the position not only of Afrikaans, but of African languages as well.

Option 3

This was presented by multiculturalists in non governmental organizations (NGOs). In this option high value was placed on the resources which the language unlocks. The suggestion of the two NGO's, non-governmental, Parliament, Post-apartheid was that at least two, but preferably three, South African languages be acquired at school. Secondly, they urged that the home language be sustained all the way through school, alongside a language of wider communication. Children who speak African languages at home might choose English as a second additional medium of instruction. Children who speak English at home would receive bilingual education through another South African language alongside English.

Option 3 presents a paradigmatic matching policy of multiculturalism with language as a resource and a congruent language in education model.

Toward the end of 1993 the interim constitution was written. It stated that Afrikaans, English, isiNdebele, Sesotho SA Lebowa, Sesotho, isiSwati, Xitsonga, Setswana, TshiVenda, isiZulu and isiXhosa were to be official languages of South Africa at national level and conditions were to be created for their development and for the promotion of their equal use and enjoyment. Rights relating to language and the status of languages existing at the commencement of this constitution shall not be diminished, and the provision shall be made by an act of parliament relating to language and the status of languages existing only at regional level, to be extended naturally. The task of implementing the language policy in the past was left to the state language services, previously located in the Department of National Education. The structure was transferred to the Ministry of Arts, Culture, Science and Technology when the government of National Unity came to power (Heugh, 1987).

According to Kamwangamulu (2000) the post apartheid South Africa language policies have been mainly concerned with status planning for the African languages against the background of the apartheid legacy. South Africa was considered a

bilingual state with English and Afrikaans as official languages. In the televised media, Afrikaans and English are offered prime time news bulletins, which is divided evenly between the two languages, which is 50% of news in English and another 50% in Afrikaans.. The distribution of airtime in South African television is strikingly uneven with English taking up to 91.95 percent of the total airtime. Afrikaans is offered 5.66% and all the nine African languages a mere 2.29%, an average of 0.25% airtime per language. Some of the African languages such as Venda, Ndebele, Swati and Tsonga rate at 0% in terms of Kamwangamalu's research (2000), though this has since been an improvement although the skewing in favour of English remains.

1.1.2 POST - 1994

In 1994 the ANC released its draft document, a policy framework for education and training (ANC, 1994). It proposed not only assimilations but segregation languages in education models. The new government adopted a multilingual language policy. The final draft of the constitution of the new South Africa was adopted on 8th May 1996. It recognized 11 official languages. The recognition was given to nine African languages, plus English and Afrikaans. The nine African languages are; Zulu, Xhosa, Tswana, Northern Sotho (Sepedi), South Sotho, Tsonga, Swati, Ndebele and Venda. This policy reflected internationalization and pluralism which were two of the four ideologies in language planning proposed by Cabarrubias (1983). In terms of the constitution a Pan South African Language Board (PanSALB) was established in March 1996. One of its functions was to promote the use of South Africa's language resources (Kaschula 1995). The aim was to promote indigenous language in order to enhance economic and educational stability in Africa and also to underpin the Organisation for African Unity's (OAU) language plan of action for Africa. The other task of PanSALB was to examine variation within South Africa's eleven official languages. The policy guidelines issued at the end of 1995 titled 'Towards a New Language In Education Policy Framework' (working documents 1995) made provision for an awareness campaign in increasing public familiarity with issues of choice in language in education. Desai and Mclean (1994) recommended that responses from the public were also quite critical.

English speakers were frequently dismissive, Afrikaans speakers often saw the new policy as a mechanism or trick to demote Afrikaans while the African language speakers were positive mainly about symbolic achievement. South Africa's post 1994 language policy is reflected in the constitution as follows (South African Constitution, 1996):

- Afrikaans, English, isiNdebele, Sesotho sa Lebowa (Sepedi), Sesotho, Siswati, Xitsonga, Setswana, TshiVenda, isiXhosa and isiZulu shall be the official South African languages at national level, conditions shall be created for their development and for the promotion of their equal use and enjoyment.
- Whenever practicable, a person shall have the right to use and be addressed in his/her dealings with any public administration at the national level of government in any official South African language of his/her choice.
- Regional differentiation in relation to language policy and practice shall be permissible
- A member of parliament may address parliament in the official South African language of his/her choice
- Legislation, as well as official policy and practice, in relation to the use of languages at any level of government shall be subject to and based on the provisions of this section and the promotion of the equal use and enjoyment of all South African languages (Kaschula, 1995:67).

After decades under the White minority rule, South Africa is still adjusting to life without apartheid. The election of the new government in 1994 unleashed great hopes for a better life for the majority of South African people, but hopes that have proved to be highly ambitious given the realities of South Africa's situation.

South Africa was under pressure to change most of its structures locally and nationally to accommodate the global needs and markets, and to respond to the demands of its citizens. This change also affected the education system because it was expected to produce a better and highly qualified learner to meet international standards. This new legislation also introduced 11 official languages and a new policy

for schools in terms of the medium of instruction (Brock-Utne and Holmarsdottir, 2004).

The transformation of the existing education system was officially announced in the ANC's 1994 "A Policy Framework for Education and Training" which had the following goals (ANC, 1994:10):

- All individuals should have access to lifelong education and training irrespective of race, class, gender, creed or age.
- The pursuit of national reconstruction and development, transforming the institutions of society in the interest of all, and enabling the social, cultural, economic and political empowerment of all citizens.
- The reconciliation of liberty, equality and justice, so that citizens' freedom of choice is exercised within a social and national context of equality of opportunity and the redress of imbalances.
- The education process shall aim at the development of a national democratic culture, with respect for the value of our people's diverse cultural and linguistic traditions, and shall encourage peace, justice, tolerance and stability in our communities and nation.
- Education shall be based upon the principles of co-operation, critical thinking and civic responsibility, and shall equip individuals for participation in all aspects of society.

To be a student and a competitive one in a post-colonial, post-apartheid class, called for a change in the teaching and learning system. There was a need to design a democratic curriculum that would correspond with international standards but with an emphasis on the local needs. Therefore a single education system that was "truly united", "democratic", "non-racial", and promoted "equity" was introduced to catch up with the imbalances of the past (Department of Education, 1997). This led to the establishment of a single education system through the National Qualification Framework (NQF), within this system, a new curriculum namely; Curriculum 2005

(C2005 hereafter), was developed which was based on the principles of outcomes-based education (OBE). This new curriculum approach has been adapted from policy trends of countries such as Britain, Canada, Scotland, New Zealand and Australia.

1.2 LANGUAGE USAGE AND PRACTICE

In parliament the majority of politicians are now black Africans, the majority of them are fluent in English, Afrikaans and one African language. Pandor (1995) reported that in 1994, 87% of the speeches made in parliament were in English, less than 5% were in Afrikaans and the rest of 8% were in nine African languages, that is less than 1% in each of the languages. Besides being dominant in parliament, English was also proposed as the sole language of Hansard the parliament's historical record of proceedings, formally published in both English and Afrikaans (Kamwangamalu, 2000).

De Klerk and Barkhuizen (1998) argue that English has become a lingua franca in the army base because it was seen by most staff and troops as "a neutral code", a language that can be understood by the greatest number and the only language that can be used for interethnic communication and the functioning of the organization.

Kamwangamalu quotes an extract from a local newspaper article where a judge in a Durban Court denied a Zulu speaker's request to be tried in Zulu, one of the country's official languages arguing that doing so would throw the province's courts into chaos:

Everyone has the right to be tried in any language that the accused person understands, or if that is not practicable, to have the proceedings interpreted in that language. (Kamwangamalu ,2000:56)

Mamphela Ramphele (Sunday Times, 8 March, 2009) strongly argues for the need for a government to make an ambitious commitment to halt the slow death of our indigenous languages when she stated that the South African Airways, the national airline carrier, must be one of a few state-owned airlines on which passengers are

not greeted in a dominant indigenous language. She feels the government's act is one mechanism of killing African languages, when their use is restricted to one line or phrase, almost as an afterthought. Ramphele continues and observes that if it was not so tragic, it would be comical how many African journalists at our national broadcaster, the SABC, pronounce their own and their colleagues' names in an anglicized manner. Tebogo, Tshepiso and many others become unrecognizable utterances as our young professionals roll their tongues awkwardly around names that should come naturally.

According to Ramphele (2009) there seems to be a growing trend to downgrade the importance of indigenous languages in all walks of life in our young democracy. English has become the language of political discourse inside and outside parliament. Imbizos in some of the remotest areas of our country have been, over the last decade or so, largely conducted in English. Elites, young and old, seem to equate sophistication with the use of English with as little African accent as possible. Ramphele feels that the causes of this trend are: Firstly, our constitution fudged the language issue by declaring all languages as official. This allowed for English to be the de facto dominant official language even though numerically, Zulu and Afrikaans are spoken by many more people at home than English. English has the advantage of being the international language of commerce and politics, but against this is the language situation in China and Japan, where political leaders insist on using their indigenous languages. They talk through interpreters, although they are able to understand and speak English. They are asserting their sovereignty as nations that are proud of their heritage.

Secondly, our education authorities have ignored the basic principles of learning in creating a post-apartheid framework for the choice of language of instruction. There is overwhelming evidence that learning through the first language or mother-tongue (MT) helps to anchor learning in the child's immediate environment, family, community and everyday interactions. Children, who are taught in the first few years in their mother-tongue, while other languages are introduced as subjects, tend to become more proficient in all languages. It provides the anchor for better and

deeper learning by linking it to everyday life and one's own identity. According to Mamphela Ramphele (Sunday Times, March 8: 2009) few people would advocate mother-tongue instruction all the way up the education tree, given the underdeveloped nature of many of our indigenous languages. But recent educational practice has created a tragic situation in which most teachers and pupils in poor schools do not have adequate command of any of the eleven official languages to be able to function well in society.

The performance of the primary school children in numeracy and literacy is in many ways a result of the misguided language policy implementation. According to Mamphela Ramphele (Sunday Times, March 8: 2009) The World Economic Forums 2008 Competitiveness Report places us 132nd out of 134 Countries in Maths and Science. Our systematic evaluation shows that, in 2007, numeracy levels among grade three pupils were 36%, while only 15% passed both numeracy and literacy tests. Thirdly there is a misuse of democracy in implementing our language of instruction policy. Why put poor, illiterate parents in the invidious position of such paramount importance without giving them all the available educational facts about the risks and opportunities of each choice. It is not surprising that parents of children in rural North West or Limpopo schools would opt for English or Afrikaans as preferred medium of instruction in pre-school. After all, they can see that the successful people are the ones who speak those languages, so why would they not want their children to join path to success. What is missing in the choices put to parents is a discussion about the fact that the pathway to proficiency in any language is made much easier by building on the self-confidence bestowed by pride in one's own language and cultural heritage. Our current approaches alienate children from their cultural roots and make parents' participation in the education of their children difficult. How can they participate in a process in which their primary medium of communication is rendered irrelevant? How can they help their own children learn when the language of instruction becomes a barrier to communication from the first day of school? And even more profound impact of this language policy is an undermining of the parental authority so essential to shaping the values and world

view of these children at this stage of their development. Why should children respect parents who only speak a devalued language?

Accordingly, Mnisi (2009) supplements and concurs with Ramphele when he states that many black children in this country, with the exception of those whose parents can afford to take them to English Medium Schools, continue to learn a half baked “second language” English from teachers who themselves are not articulate or fluent. Ironically, all their other subjects are then taught in this second language. Maths has become a problem to many black children not because of its abstraction (or lack of it), but due to comprehension issues. Mnisi further argues that he can recall how he struggled to evaluate a fraction because he could not understand what “evaluate” meant. Not only does this pose difficulties in learning, it has sadly led to the demise and underdevelopment of indigenous languages. The Department of Education has made provision for pupils to write in their own language, but how many pupils can or are realistically able to do so? Take for example having to write about the pancreas during a biology examination in any indigenous language when one does not have an equivalent word for it. Mnisi believes that the Department of Education’s language policy is deliberately suffocating indigenous languages, and facilitating their extinction. Teaching African children in a second language impairs their comprehension, creativity and development, not only hindering their progress, productivity, efficiency and potency, but also classing them as inferior to others, however unwittingly. Since the foundations of the Education system with regard to black students are dubious, they will always experience problems in passing their studies and progressing without impediments to their careers. Mnisi suggested two ways to solve the problem: either all students learn English as a first language, or we translate all books to accommodate indigenous languages so that black learners can learn with ease in their mother-tongues and this will sustain, develop and grow their languages.

Ramphele and Mnisi are supported by Obanya, a retired Nigerian education Strategist who observes that South Africa is not alone in undermining indigenous African languages (Obanya, 1999). He stated that education in Africa tends to

alienate elites from their roots and undermine their capacity to be effective agents of change to promote sustainable development. Education is mainly about acculturation, being absorbed into a different culture. Starting off an acculturation process with non-first language tends to lead to a situation in which a person could become knowledgeable but not cultured, and developing a feeling of not belonging anywhere. Elites in Africa are contributing to this trend by educating their children in private schools, where the teaching of indigenous African languages is minimal. Many see the inability of their children to communicate in their mother-tongue as a badge of honor. Obanya stated that he never thought he would hear his fellow professionals saying without any touch of irony: “Thabo cannot hear what you are saying, he only speaks English”, or proclaiming proudly that their daughter cannot play with her cousins because she cannot understand “their language” (Obanya, 1999). The overall impact of the misguided policy on the language on instruction in our education system is leading to a slow death of African languages. Not only are our children not exposed to these languages early on in school, but the quality of language teaching has been substantially degraded. The curriculum requirement for languages set the bar so low that few would fail to get high marks, but they remain largely ignorant of the richness and nuances of the languages. The experience our generation had of wrestling with African idioms, proverbs and challenging texts and grammar is a distant memory. The classical novels we read as students are out of print and few modern ones have been published. Publishers have long given up on African language publications due to insufficient demand.

African language departments in our higher education institutions are largely dying because of a lack of interest by students and academics. Parliament is hopelessly behind schedule in translation services for Hansard due to a shortage of translators, not to mention the challenge of making court proceedings substantively accessible to indigenous African language speakers, in line with our constitutional commitments. A travesty of justice is being played out in our national life. This language question requires leadership to elevate the debate to a key public interest issue. Ramphele feels that a strong government is needed to make an ambitious commitment to halt the slow death of our indigenous languages. Promoting their

use should start with our president and his cabinet. Education authorities should do a better job than to pass the buck to poor communities to make a Hobson's choice. Careful, progressive introduction of other languages, on a firm foundation of mother-tongue in the first few years of school, will align learning to the cultural heritage of learners and promote greater participation of parents in the teaching of their children and support for schools.

Business and other leaders in civil society have a responsibility to keep this rich heritage alive too. Black Economic Empowerment (BEE) beneficiaries should help to salvage the rich African cultural heritage that is at risk of being lost in the next generations. Church leaders also have a role to play to ensure that the beauty of our religious idioms and hymns are not lost. Ramphela in her final analysis of language usage and practice vehemently feels that no action can succeed in building a prosperous democracy without mobilizing the heritage, talents and pride of its people.

Ubuntu (humanity to others) and Batho Pele (people first) as values of our society can only thrive if anchored to a firmer cultural heritage base to leverage South Africa's rich diversity of languages is key to our success.

Mamphela Ramphela (Sunday Times, 8 March: 2009)

1.3 LANGUAGE AND ECONOMY

International funders operating in Africa often encourage and demand certain language policy decisions before any funding takes place. Kaschula et al (2007) refer to language as an economic empowerment tool requiring policy makers to engage with language planning issues from a multi dimensional perspective, from language as a tool for cultural identity. This presents challenges to the status quo regarding how the fiscus applies public expenditure and the role of language planning in schools. Clear guidelines, do not, unfortunately present themselves, and this points to the need for planning tools that are integrated with the economic aspirations at a local and national level. The policy decisions are arguably not always in the interest of the country concerned, for instance English second language programmes based

upon subtractive bilingualism and transitional models of languages in education were supported by major funders. There is also a correlation between World Bank criteria and those of the USAID and ODA. Subtractive bilingualism would be in conflict with South Africa's new constitution which encourages additive bilingualism. According to Phillipson (1988) English as a second language teaching has not succeeded in the third world because it is based on western models and ultimately benefits small elites, with fewer children gaining proficiency in English. Children are still unable to attain any significant levels of cognitive development and knowledge acquisition and as such they are unable to be absorbed into an economic mainstream dominated by English speaking elites.

Lo Bianco (2009) also argues that the world is dividing itself into three trade blocks, a dollar dominated American zone, a yen dominated Asia, and a Euro dominated Europe. Therefore to see English as a dominant language is totally incorrect. South Africa must accommodate the economic reality of its trading partners which include Japan, Germany and China. South Africa also needs to trade in languages like French, Swahili, Portuguese and Arabic (Heugh, 1995). The World Bank, and other international aid agencies need to define an "econo-language" (Kaschula et al 2007). Political role players in South Africa must be able to influence the World Bank and other powerful agencies to change their stance and thus allow the development of our own language planning in order to boost the operational needs of our national economy (Kaschula, 1999).

Heugh (1994) argues that an effective language policy cannot be implemented without comprehensive strategies that encompass all sectors of society. A multilingual policy in education can only be successful if it is supported by implementation in government, the economy and social services. Kaschula (1999) expands and observes that the language implementation plan could have real benefits by allowing South Africans to experience life through their mother-tongue. A national socio-linguistic survey commissioned by PanSALB in 2000 showed that more than forty percent of the people in South Africa often do not understand what is being communicated in English (PanSALB, 2000).

Kamwangamalu (2000) indicated that African languages are currently not marketable and have no value in the broader political and economic context. A language is marketable if it has potential to serve as a tool by means of which its users can meet their material needs. Cooper (1989) suggested that language planning must be viewed as a marketing problem. The language planners must develop the right place at the right price. He suggested that language planners must recognize, identify or design products which the potential consumers will find more attractive. Incentives have to be developed that will encourage people to maintain and develop indigenous languages so that these languages will benefit economically. Murray (2002) indicated that both the indigenous and exoglossic languages should be taught expertly if economies are truly to succeed, both at the macro and micro level where their different language needs. The successful teaching of the indigenous languages holds the key to success in acquiring English, and thereby holds to the economic advancement, especially at a global level.

Language policy and language practice are important in terms of the fact that they can either stimulate or impede economic efficiency, labour, productivity, economic growth and development. Since human beings are dependent on one another for the production of the means of subsistence, they necessarily cooperate in the labour process and in order to do so, they have to communicate with one another. In this process of communication, language plays the most important role; hence the development of the linguistic markets, especially in the modern world of the capitalist mode of production, is directly related to the economic functions of a language or of a set of languages.

The languages, in which the major economic transactions of a society take place, function like a key to power, money and status. In the field of applied language studies in Africa, there is a growing appreciation of the fact that one of the reasons for the failure of so many economic development plans on the continent is the fact that development aid is invariably packaged in a foreign language (usually English) and that this fact necessarily excludes the vast majority of Africans from being

integral participants in the development process (Kamwangamalu, 2000). The most advanced analysis of the genesis and social order functions of linguistic markets is that associated with the work of the late Pierre Bourdieu. In a multilingual policy, it is essential that the optimal balance be found in the deployment of relevant languages in order to maximize efficiency and productivity. One of the myths of “hands-on” as well as most theoretical economics is that a single, usually a dominant language is a critical feature of such a “balanced” policy. This is a legacy of the European provenance of modern industrial societies and does not correspond to the reality in most of the non European countries. Indeed, given the universality of mass migration today, it is no longer even characteristic of most European societies. In any case, it is counter intuitive to claim that an entire nation will produce optimally in a second or third, not to say a foreign language (Kaschula, 1999).

1.4 LANGUAGE IN EDUCATION

Prior to 1994 English and Afrikaans enjoyed status within the education fraternity, but after 1994 the struggle between English and Afrikaans shifted to the struggle to promote the study of African languages, despite the conclusion that every person shall be entitled to instruction in the language of his/her choice where this is reasonably practicable. (The Constitution, Section 32(C)), African students are not ready to be educated through the medium of an African language. On the contrary, the territorial straddle between English and Afrikaans has resurfaced.

Recent racial tension between white and black students at historically Afrikaans medium institutions and schools are testimony of the on-going language struggle. Kamwagamalu (1997) argues that despite its cognitive advantages, mother-tongue education will not appeal to black communities because of the apartheid era legacy. The Bantu Education Act, made mother-tongue education synonymous with inferior education in the eyes of the Black communities. This stigma lingers on and has hindered efforts to promote African languages as languages of learning and teaching. Ramphela in indicating how serious and bad the situation is, stated that ultimately our children were paying the price for the constant erosion of African languages. To her, language is not only the medium of communication, but also a means of cultural

heritage transmission between generations, how our children learn to know who they are and what heritage they bring to South Africa's diversity (Ramphela, 2009). Our education authorities have aggravated the situation by ignoring the basic principles of learning in creating a post-apartheid framework for the choice of language of instruction. There is overwhelming evidence that learning through the first language or mother-tongue helps to anchor learning in the child's immediate environment: family, community and everyday interactions.

Universities are presently re-assessing their internal language policies. Kaschula (1999) indicated that at the University of Cape Town, a language task team was established. They have opted for tri-lingual approach, the recommendation was that English be recognized as language of instruction, however, tri-lingual glossaries will be created in Xhosa, English and Afrikaans for key terms in various disciplines such as engineering, law and commerce, and multilingual awareness will form part of the campus life. All doctors should be proficient in English, Afrikaans and Xhosa in order to graduate. This would allow on site clinical examinations to be conducted on patients in the language which the patient understands best. Today while certain class citizens attend elite schools the vast majority of South African children in townships and rural areas are attending schools where the emphasis is still on communication in the Mother Tongue, with the medium of instruction being English (Kaschula, 1999).

The University of Pretoria has taken a unique initiative in determining whether or not it is feasible to use African languages as a medium of instruction at secondary schools and in the foundation year of the physics course. The initiatives include the translation of the force concept in the physics course inventory into six languages (Pare, 2008). Those languages are Afrikaans, Southern Sotho, Northern Sotho (Sepedi), Tswana, Venda and Zulu.

The Interim Constitution of the Republic of South Africa makes provision for the rights of communities to establish, where practicable, educational institutions based on common culture, language or religion provided there

shall be no discrimination on the grounds of race and colour. Such schools will be required to comply with the national qualifications framework. There is no obligation on the state to provide funding for such schools. (ANC , 1994:9)

Despite these laudable policy goals, schools continue to be divided according to class and economic status of the parents, meaning that inequality in education is still continuing but the difference this time is based on parental resources. “They (parents) also unreservedly believe and have faith in the capabilities of White teachers and White schools. The fact that there are no Black teachers in the schools they are sending their learners to is not seen as problematic to them” (Mda and Mothata, 2000:57).

Interestingly, some multiracial schools still promote dual languages, in this case English and Afrikaans, without the addition of any African language in the syllabus. Mda highlights that in South Africa, some Black learners may move to White dominated schools in White areas, and have to shed off their Africanness to be replaced by White ways that are usually Eurocentric (Mda and Mothata, 2000).

Usually in these schools teachers often are not proficient in the pronunciation of the learners’ names, and are not aware of the learners’ linguistic and cultural background or their socio-economic status. Multicultural education, by contrast, recognizes and accepts differences and similarities and endeavours to accommodate both dimensions, without emphasizing one or the other. “Treating unequal people equally or different people similarly, is as discriminatory as promoting inequities, or treating equal people unequally, or similar people differently” (Squelch, 1993:46/47). Consequently, it could be argued that education today in South Africa continues to be unequal in many respects. “It is a truism in education theory that education systems always serve the end of a particular power group at the expense of others in a society”. Mason continues to point out that: “...our education serves the needs of the state. And a state committed to apartheid ideology and exploitation of the working classes will design its education system accordingly. It is no accident

that white schools are extremely wealthy in their facilities, while black schools are caught in poverty – inducing economic stranglehold ” (Mason, 1987:2).

In a study by Soudien in 1997 of African learners in a Coloured school in Cape Town, it is reported that, “the experience of African learners in schools where Afrikaans is the dominant language, is as alienating as the experience with English in the former White schools ...when the IsiXhosa speaking learners spoke their language to one another some teachers made it clear that this was not acceptable because the teachers did not speak or understand the language and they misinterpreted the behaviour of the isiXhosa speaking students” (Mda and Mothata, 2000:53).

What then happens to freedom of expression and the right to language if speaking one’s own language in the school premises brings feelings of threat, tension and disrespect? Seemingly these learners are deprived of the right to speak and to freedom of expression as expressed by Fanon (1967).

As early as kindergarten years, learners are faced with English as parental perspectives on the value of English in terms of opportunities, reinforce the language of tuition (Heugh, 2000, UNESCO, 1953 in Romaine, 1995, Bamgbose, 1992). In this way learners are forced to “unlearn” their mother tongues as they are gradually replaced by English and subsequently English become the language of both the school and home. This raises questions, e.g. what happens to the cultural identity of these learners? When will the learners be able to develop their mother tongue (MT)? The intention of this argument is to show the complexity of the language issue in South Africa, and the implications of English hegemony.

Mda and Mothata (2000) reflect on South African schools during apartheid as follows:

The integration of the South African Schools must be looked at against the background of the educational history of the country. During the period of the missionary education (broadly 1652-1947) there has been some limited

mixing of races in some areas. Thus although schools were racially segregated from the time of missionary schools, it cannot be said that there was an official segregation policy before 1948.

(Mda and Mothata, 2000:44)

Segregation has been a problem since then, depriving people the opportunity of mixing and sharing their cultures. Further, the linguistic barriers do not only occur amongst Black and White South Africans. In 1948, when the Nationalist Party gained a narrow victory over the United Party of General Jan Smuts, this marked the introduction of apartheid in South Africa. This also heralded a much more aggressive politics of privilege for Whites in general and Afrikaners in particular (Kallaway, 2002). This victory ensured the promotion of Afrikaner culture, language, and economic interests, the emergence of a powerful structure of state power designed to defend the privileges of the minority, the restriction of the political, social, and economic rights of the majority (Kallaway, 2002). The victory of the Nationalist Party also meant the degrading of indigenous culture and languages, and importantly the separation of black people for containment.

The possibility of breaking up the Black people into a large number of conflicting and competing so-called ethnic groups through Homeland Acts became the main purpose of the government. According to Thompson and Wilson:

The anti-assimilationist and anti-urban aim of the policy was quite explicit. The emphasis on vernacular instruction was to be the main instrument to promote separateness [In Alexander (1989:21)].

This restructuring of Black people not only affected their social structure but caused a serious ethnic conflict which is still prevalent in South Africa. For example the racial conflict between Zulus and Indians in KwaZulu-Natal and Coloureds and Xhosas in Cape Town, which results in each ethnicity seeing themselves as much better than

the other linguistically and culturally but this alienation also occurs between Black people, for example, Sotho speaking people are not able to communicate easily with Xhosas and other indigenous language speakers:

...linguistically, the communication problem includes not only language barriers between White South Africans but similar impediments between Black South Africans...much unnecessary misunderstanding is occasioned because so few Black and White South Africans can communicate easily with each other. (Rose and Tunmer , 1975:149)

The implications of segregation are evident in formal and informal education in South Africa. For example the pass rate in White and Black schools is different with White learners having higher scores when it comes to tests and examination, due to the predominate use of their mother tongue as the language of instruction. The language used for assessment, in this case English, favors white learners because for many it is their home language. However, it needs to be noted that there are learners whose mother tongue is Afrikaans, who also struggle with English as their second language. These learners used to write their papers in Afrikaans during exams before having separate papers, one in English and one in Afrikaans. However, it would be unfair to focus only on English and Afrikaans when dealing with language matters in South Africa. Therefore it would be erroneous to compare the South African language situation to that of bilingual countries, as doing so would jeopardize the development and promotion of other official languages.

South Africa is not bilingual in nature but multilingual and multicultural, it is necessary to focus on the total complexity of the language issue in the country. "Perhaps the solution linguistically would be for all South Africans whether Black or White to be trilingual in the future, and certainly the building of some sort of language bridge between Black and White is a top priority for educational statesmen...Language as so many have pointed out is not merely a means of communication, it is a repository of values, standards, beliefs and past achievements – a social instrument of consequence" (Rose and Tunmer, 1975:150).

1.5 LANGUAGE AND POLITICS

One of the significant points of multilingualism is that all human beings should have the right to use the language of their choice in order to conduct their essential transactions such as going to school, church or to the post office, the bank, the supermarket, etc, if these languages are prevalent in the political entity in which they live. If they are unable to do so, they are necessarily disempowered, unable to be part of the decision making process of the society concerned and are unable to make or to influence the concrete decisions that affect vital aspects of their lives. Such circumstances occur in every social formation on a random basis as the result of a lack of resources or because of the insensitivity of one or other bureaucrat. When this happens, the matter can usually be put right without too much trauma and humiliation.

The object of our concern is the systematic denial of such linguistic human rights as a matter of political and social policy of the ruling groups in a society. This question is clear; it is of exceptional importance in a country such as South Africa, where we are going through a period of transition and, in certain respects, of a very real transformation.

Given the obvious importance of linguistic human rights for the expansion and consolidation of democratic policies and for the well being of all individuals, it is significant that as yet there is not a single international rights instrument in which education of children in the mother-tongue is guaranteed without qualification (Skutnabb-Kangas, 2000). This is indeed ironic if we consider the fact that linguistic human rights are original human rights, that is, those rights derived from the need and the struggle to maintain the feature by which our very humanity is defined and made possible. Although we would have to reformulate it in various directions in order to bring it in line with the state of our knowledge of communication theory today, if we accept the Darwinian dictum: "No man without language, no language without man", we can arrive at no other conclusion. A vital insight in this regard pertains to the implicitly global contest between Anglo-Saxon dominance and what

we might dub the global alliance for the promotion of multilingualism. In this connection the continents of Europe (The European Union), Africa (African Union) and Asia (ASEAN) are of prime importance. Cooperation among the states and the civil society sectors of these areas of the globe is essential for ensuring linguistic diversity as understood in the present context.

Alexander (2002a) states that in order for politics to function efficiently, it is essential that the leaders ensure accountability and transparency. In order to do this, people must be able to communicate with their leaders in the mother-tongue languages. Institutions of global governance, for example, the World Trade Organization, conduct business mainly in English, hence making it extremely unapproachable for non-mother tongue English speakers. Although theoretically a political institution, the World Trade Organization has been accused of exhibiting a lack of transparency (Hoekman and Mavroidis, 2000). The fact that all major decisions take place in English, render it inaccessible to marginalized countries.

This marginalisation has significant implications for the African Renaissance vision. Makgoba (1999) identifies three major tensions permeating the debates surrounding an African Renaissance. The first is the issue of identity, namely, what constitutes “Africanness”. The second is African cultural change or loss as a result of globalization, and the third issue is that of African languages. Makgoba states, “...language is not simply a means of communication or expression, but a corpus of knowledge of a people” (Makgoba, 1999:Xi). Languages are markers of identity and culture and different languages subtly reveal much about their speakers. Makgoba notes that while most of the writers in his book, *African Renaissance*, are African and speak an African language as their mother-tongue, none actually writes in an African language. He avers,

Can African people champion their renaissance through the medium of foreign languages? This is perhaps one of the greatest cultural challenges of African people...through language we carry science and technology, education, political systems and economic developments, in the majority of

African people, about whom the rebirth and re-awakening is about, live in their indigenous languages throughout their lives. (Makgoba, 1999: xi)

It is evident that Africa has reached a significant point in its development. If African countries want to participate and compete on a global level, it seems necessary that they conform to hegemonic western notions of economic progress and liberal democracy, which implies adopting neo-liberal economic policies such as state deregulation and economic privatization. It also implies conforming to a western mentality and culture. This has severe implications for minority African cultures and languages, which are being increasingly neglected by national governments. In order to be taken seriously by the international community, the African Renaissance has to take place through the medium of English. In order to reach English proficiency, it is also important to reach the mother-tongue properly so as to facilitate transition. It is not a question of either English or the mother-tongue, but both languages. Webb) in reference to a study commissioned by the PanSALB, points out that “...about 25% of the South African population has an adequate proficiency in English for the purposes of effective economic activity...75% black South Africans are not proficient enough in English to be able to use it as a meaningful instrument of economic activity...” (Webb 2002:227) This allows only the elite minority to participate economically and globally.

However, in order to participate in global affairs it is highly beneficial, if not essential, for individuals and nation states to be capable of communicating in English. This situation creates what Alexander (2002) terms “a hierarchy of languages” (Alexander, 2002), which mirrors the power relations of the planet. The global order thus reinforces English’s hegemony and potential of technology has potential to be a powerful enabling factors that brings extensive potential (Martin, 2006). Harnessing the potential will be essential for developing countries if the global economic status-quo is to transform and embrace those becoming further marginalized by the globalization process.

Few would argue that English is not an asset. The figures for those studying English show that the language alone generates national income through foreign students, plus the benefits of its role in global economics has been demonstrated. While the Spanish press responded with a flurry of editorial attention to reports that Spanish generates as much as 15% of national income for Spain, does this mean that all other languages carry secondary value as econo-languages? Building on the work of Kaschula et al (2007), which explores the term econo-language, this work suggests otherwise. The real issue is using an indigenous language as a transfer to global languages, thereby empowering both the mother-tongue and the global language.

What was true of other policy domains was equally applicable in the domain of language policy. A gratuitous distinction was made between official, that is, European, and “natural”, that is, African languages since some concession had to be made to anti-colonial sentiment among the masses of the people. In an unintended manner, this distinction is in fact captured discursively the social, economic and political distance that separated the African citizens from the elite, outwardly-oriented middle classes. There is no need to belabor the point. Profound and indecisive analyses of post-colonial socio-linguistics in Africa have been made by numerous scholars (Bamgbose, 2000, Heine, 1990, Prah, 1995). Hegemonic status of English and French in particular occasioned what is called a static maintenance syndrome.

Although not being aware of any African intellectual that have gone as far as to suggest as some Meiji Japanese intellectuals have, who wanted to replace Japanese with English, there can be no doubt that most members of the post-and neo-colonial elites, in spite of all protestations to the contrary believed, and sadly, continue to believe, that preference given to English would be the best option.

This ideology, clearly, reflects the dependency relationship that shackles the African elites to their former colonial and imperial overlords. It cannot, and does not reflect the interest of the masses of the African people, for whom English, French and Portuguese in whatever variety they attempt to speak them, remain essentially

foreign languages. The democracy argument, which is also an argument for social equity, as opposed to the deep inequalities that characterizes the neo-colonial state demands, as written elsewhere, that the African middle classes commit class suicide. In terms of language policy that policy had to be viewed from the perspectives of urban and the rural poor that is it implies a shift from the dominance of the languages of the former colonial powers to the indigenous languages of Africa. Lest there be any misunderstanding, let it be stated clearly that the political argument is based on the assumption that the political and the cultural leadership of the continent are genuinely committed to the eradication of poverty, disease, ignorance and all forms of discrimination. If that is the case, then the development of the languages of the people is a pre-condition, it is in fact no less than the litmus test for the determining the democratic credentials of the regime or government in question. At the moment, sadly, most African governments fail this elementary test. This chapter has dealt largely with aspects of language planning as a backdrop and introduction to this thesis. Chapter 2 will focus more specifically on the notion of the intellectualization of African languages.

CHAPTER 2

INTELLECTUALIZATION OF AFRICAN LANGUAGES

2.1 WHAT IS INTELLECTUALIZATION?

Intellectualization is the mechanism by which people use reason as the basis of belief and knowledge. It is achieved through rationalization then accepting what is real, that is to remove oneself from the equation. It is a defense mechanism that uses reasoning to block out emotional stress and conflict. When one intellectualize he/she uses the conscious analysis of an event in a way that does not provoke anxiety. A person avoids uncomfortable emotions by focusing on facts and logic.

The intellectualization of African languages refers to the use of African languages in all the most powerful domains of social life. The language infrastructure of Africa must be constructed as an integral component of the economic development plan as something not to be separated from culture (Alexander, 2007). Language must be developed as a tool of specialist communication and can be used for academic purposes. African languages must be used at the University for the purpose of writing theses in all faculties at the tertiary level and also at other institutions like high schools and primary schools. Languages must be modernized for special communication (Mwansoko, 2004).

African poverty and economic inequalities have to be removed or reduced during the twenty-first century. Language is one of the central issues that has to be addressed. The issue of language is linked to the imperatives of the democratization of modern African states, for promoting individual and social equilibrium, economic development, enhancement of self-confidence and creativity. A general policy for the establishment and modernization of African languages in the context of overall national development must be created to promote language equity in multilingual African societies (Alexander, 2007).

Alexander proposes that Africans must initiate a counter-hegemonic trend in the distribution of symbolic power and cultural capital implicit in the prevailing language dispensation in Africa's education system. African languages must gradually eliminate the dominance of English or at least share the domains with it (Alexander, 2007).

The specialist in African language has a great task of ensuring that all African languages are developed. They must pay special attention to small groups and the languages which are dying, and include also languages that are functioning well as official languages. As Africans we need to gradually reduce the use of English as language of instruction in education, technology and modernization (Alexander, 2007).

The language is intellectualized when it can be used for educating a person or people in any field of knowledge from pre-school to university and beyond. Every African language department at every university or university of technology has to spread support for the development of African languages. Language practitioners, educators and everyone must persuade our communities about the potential of African languages as a language of high status.

In order to intellectualize African languages, universities and language practitioners need to be engaged in the larger national historical, social, economic and political contexts of language use. The influence of dominating political and cultural authority is important for the development of African languages.

2.2 WHY INTELLECTUALIZE?

2.2.1 MT COGNITIVE DEVELOPMENT DEBATE

According to Piaget (1932) culture, language and context are important for the process of constructing knowledge. Sociological studies maintained that reasoning for the importance of cooperation and mutual respect in social interaction is a necessity condition for cognitive development. Vygotsky emphasized the importance

of discourse with others, language and culture in order to, through the process of mediation get to a higher level of truth that has been socially tested (Pare, 2006).

Learners can with the help of adults or peers who are more advanced master concepts and ideas that they cannot understand on their own. The learners can also construct knowledge and meaning through participation in activities and challenges, with the added emphasis on the interaction between learners and facilitators in order to arrive at a higher level of truth. According to Vygotsky the intellectual development of learners is a function of human communities, rather than of an individual. The contributions of a child are widely respected and influenced within the fields of developmental psychology, education and child development. The intellectual development of the child is largely influenced by the child's interaction with the others. Language plays an important role in the cognitive development of the child. This happens because complex concepts are conveyed to the child through words. Learning always involves some type of external experience being transformed into internal processes through the use of language. Speech and language are the primary tools used to communicate with others promoting learning (Pare, 2008).

According to Vygotsky if some of the linguistic units and rules used in a subject like physical science are not familiar to the student, the students will not be able to engage in effective linguistic interaction. They will have a problem in linking any new material to their pre-knowledge. If a learner can find other linguistic units and rules in his MT with similar functions as those used in English, the Piagetian constructivist process of accommodating the new knowledge would be made easier, and the linguistic interaction with the students teacher and his/her peers will be promoted.

The interaction in a classroom situation is more than a question of knowledge of words; those who take part in a conversation need a command of complex morphological and syntactic structure, text type's, functional capacities and sociolinguistic competence. They also need the relevance of situational, psychological, socio-cultural contexts as well as the required background knowledge,

with the more competent control over the language, communication with learner's peers is facilitated (Pare, 2008).

It is becoming increasingly accepted among various social groups and natural scientists that cultural variety is as important to the survival of the human species on the planet earth as biodiversity. Linguistic diversity is one of the elements of cultural diversity which is an integral part of the bicultural diversity. Scholars like Skutnabb-Kangas (2000) argued that there is a relationship between the fact of the density of species and languages respectively, this hypothesis strengthened the diversity argument even if the evidence is not yet well documented.

If any language disappears or dies there is a possibility of the disappearance of the history of those indigenous languages and also valuable indigenous knowledge. The endangered languages must be preserved and the extinguished languages should be restored, if possible. Language is the main element in the formation of individual and social identities. The right to mother tongue education or the right to be tried in a language that you understand well is now considered to be linguistic human rights. It is difficult to attain these rights because of the situational roots of the value of language for specific communities (Alexander, 2007).

A language family is a group of languages which derive from a common original language or group of original languages. The language family will have common phonetic, phonological, morphological and syntactical characteristics. Those languages will also possess common vocabulary. The African languages of South Africa are accepted as a genetic unit. The following is an example of genetic relationship between languages:

Xhosa: Umtu uyabona

Zulu: Umuntu uyabona

Sotho: Motho o a bona

Tsonga: Munhu wa vona

Venda: Muthu u a vhona

(Lombard et al, 1986:76)

Guthrie and Doke have classified languages into Language Zones (Guthrie, 1962 and Doke, 1984). When a number of language groups show certain common characteristics they may be grouped into a language zone. This is a term reflecting the closer relationship of a certain number of language groups within a geographical area as opposed to others. Professor Guthrie has classified Bantu languages into zone numbers from A to T while Doke classifies into seven main zones and four sub-zones. Guthrie's old zones included Venda, Sotho and Nguni, while Tsonga and Shona fell under zone T.

In South Africa there are four groups of African languages which are recognized. When a number of dialects clusters are grouped together we have a language group e.g. Northern Sotho, Tswana and Southern Sotho which are known as Sotho group. The language groups are as follows:

- Nguni group
- Sotho group
- Tsonga group
- Venda group

The term group indicates a group of languages which are related. Dialect is a smallest unit of language spoken by a particular group or community of people that is a regional language. Language can also be subdivided into idiolect which is used to indicate the linguistic behavior and characteristic of a particular person, that is, the individual variations in a dialect (Lombard et al, 1986).

Everywhere in the country the language is a major source of individual and ethnic community, pride and identification. The establishment of which African languages can be used as national languages is very political, sensitive and difficult. National language cannot be inflicted upon people; the process must be voluntary and include clear incentives.

In secondary schools and universities, courses which are officially in the colonial languages are often taught in the mother-tongue, the teacher and the lecturers in class making extensive use of mother-tongue. Explanation and discussions of the material by the teachers among students are almost always in the mother-tongue or with the use of code switching. Sometimes teachers use the colonial language when they do not understand the content of the materials but do not want to be questioned by the student. The inadequate command of colonial languages encourages the use of rote memorization of the colonial language material for year end examination. Only a limited small group of students go to private schools where they generally command and produce greater facility in the colonial languages (Szanton, 2003).

The insistence of maintaining English as a medium of instruction is derived from the parent's misguided understanding of the effective science of teaching and their ambition for their children. Parents everywhere want their children to have a good command of English as a global language so that they can get prestigious employment. Students who are taught by teachers who do not have a full command of English are best taught their subject courses in their own mother tongue if they are to come to a full understanding of the content and concepts of this subject.

The full creative use of African languages is essential to Africa's development, and Africa's capacity to participate in and contribute to global processes. Media, that is radio; TV and print journalism can play a major role in extending the use of African languages. African universities are also essential for enhancing the status and intellectualization of African languages. University research, publications as well as courses and programmes taught in African languages, or bilingually can promote the intellectualization of African languages.

Individual specialists in teaching mother-tongue can powerfully shape new conceptualizations and curricula as well as mobilize other scholars and students to use the mother-tongue for academic and intellectual purposes (Szanton, 2003).

The professional linguists have important roles to play in the process of intellectualization. Linguists are essential for the harmonization and standardization of related African written languages, dialects and of orthographies. They facilitate broader communication and enlarge the audiences and markets for publication in those languages. Working together with NGO staff, scholars, practitioners, translators and specialists' linguists are actively engaged in developing the common standards and procedures within and across languages for drawing an older terms or borrowing or creating new terminologies. Linguists are also a key to the construction of specialized African language registers and glossary and specialized and general dictionaries for all levels of education (Szanton, 2003).

2.2.2 ACCESSING INDIGENOUS KNOWLEDGE SYSTEMS

Indigenous knowledge is unquestioningly employed as an umbrella concept to cover practices, skills, customs, worldviews, perceptions, as well as theoretical and factual understandings (Horsthemke, 2002). This attention to African indigenous knowledge is aimed at achieving the following: reclamation of culture or traditional heritage, decolonization of mind and thought, recognition and acknowledgement of self-determining development protection against further colonization, exploitation, appropriation and commercialization, legitimating or validation of indigenous practices and world views, and condemnation of at least caution against the subjugation of nature and general oppressiveness of non-indigenous rationality, science and technology.

According to Emeagwali (2003) European philosophers of science have spent an inordinate amount of time discussing the nature of rationality, objectivity and problem solving in mainstream science. Africans must also do the same with regard to the African Indigenous Knowledge Systems (IKS) that is rejecting, accepting, modifying or adapting relevant conceptual baggage in the field and creating entirely new constructs of analysis for understanding the phenomenon where necessary. The recognition and appreciation of African Indigenous Knowledge (AIK) is a source of healing and of therapeutic import in the context of unhealthy imbalances, distortion, trivialization and neglect inflicted by the Eurocentric education and governance.

Tapping into intellectual resources with IK is not only cost effective but also relevant and indispensable for environmentally and ecologically sensitive activity (Emeagwali, 2003).

AIK continue to prove viability and strength through informal sectors or what is known as the second economy. In some cases over 50% of total economic growth takes place in this informal arena of small scale producers and manufacturers through technical operatives including metallurgist, textile manufacturers and food processors (Emeagwali, 2003). Many of the agents and agencies associated with the second economy tap into the accumulated skill and expertise and indigenous knowledge system from traditional Africa.

Oral tradition is the most significant gathering exercise for AIK that is the collective testimonies and recollections of the past inherited from earlier generations and transmitted in various forms of verbal testimonies. Poetry is also important especially praise poems, poetic invocations for traditional healing and poetry expressing deep thought and philosophy are also important for AIK. The library also play an important role in providing information, to be transformed into a curriculum planner and media specialist, significant in the use of a wide range of resources including virtual museums, computer generated programs and a wide range of internet derived resources. The onus of any AIK centre is to extensively document, before it is too late, a variety of accumulated experience from African region near and far, obscure or obvious (Emeagwali, 2003; Mostert, 2010).

African Traditional Medicine (ATM) can be categorized as mind-body medicine. There are some common medical principles which have emerged over time in various African regions which include several scientifically proven techniques and strategies, some of which are culturally specific and of psychological importance. Among the common principles and procedures utilized in ATM are hydrotherapy, heat therapy, spinal manipulation, quarantine, bone-setting and surgery. Treatment for cancer, obesity, drug addiction, diabetes and other ailment have benefited directly and indirectly from traditional African pharmacologists through plants. The

World Health Organization has recognized the contribution of traditional medicine to psychiatry and the prescriptions of these traditional medicines should be in African indigenous languages to facilitate their production among Africans.

Concerning mathematics, the African Mathematical Union based in Mozambique has listed a number of sources of information on the history of Mathematics in Africa. Some AIK systems of calculation had 10 as a base whilst others were vigesimal such as the Yoruba system. Distinctions were made between prime numbers and multiples which contained other numbers and various symbols evolved to represent various quantities. African systems of logic have also been manifested in games and activities of strategy such as Mancala and Ayo as well as games of alignment and puzzles (Emeagwali, 2003).

Indigenous fermented foods in Africa have usually been derived from cassava tubers, cereal legumes, oil seeds, palm tree sap, milk and various other local products. Emeagwali (2003) has pointed out that:

the scientific basis of indigenous food fermentation lies in the nature of the micro-organisms involved in fermentation, and microbial induced change of the base product, the nature of the enzymatic reactions which take place, and the specific nature of the end product in terms of nutritional and preservative qualities. Food processors became aware of the significance of the various agencies by virtue of trial and error experimentation. (Emeagwali, 2003:4)

These agencies should endeavor by any means to have these terminologies made available in indigenous African languages.

The foundation of intellectual development is early childhood. The intellectualization of a language begins in early childhood, with the children themselves and their care givers. Children learn to read and write more easily when they have access to interesting and enjoyable stories and other reading materials in their mother-tongue

as well as in English or another ex-colonial language. Africa is a continent of stories and we have to ensure that these regain their prominence and influence in various ways, not least as educational bridges between oral and written language in early childhood (Alexander, 2004). Linguists and professionals must help to stimulate cultures of reading and writing by initiating programmes for developing new children's literature through writers and illustration workshops and developing specialized children's literature translation skills among professionals working in indigenous South African languages.

The other project is the African speech technology project (AST): (Roux; Louw and Niesler, 2005). The aim of this project is to develop the indigenous languages of South Africa at technological level in order to keep these languages abreast with developments in the ICT field, and to facilitate access to information for all citizens in a developing country. AST developed telephone speech databases for five South Africa's eleven official languages, namely: - Xhosa, Southern Sotho, Zulu, South African English and Afrikaans. These databases were fully transcribed both orthographically and phonetically. The project also developed a multilingual telephone based hotel booking system as a prototype for demonstration purposes. This system allows speech to be both recognized and synthesized in one of three languages. A user may use the system to negotiate a reservation at a hypothetical hotel in his or her preferred language.

A total of eleven databases based on the five languages were developed. The English and Afrikaans databases are divided into five and three sub-databases respectively, based on different speech varieties used by mother-tongue and non-mother-tongue speakers. For the English database, English mother-tongue-speakers as well as four groups of non-mother-tongue speakers were targeted namely: Black, Coloured, Asian and Afrikaans speakers (databases BE E, IE, and AE). The Afrikaans database group included speech produced by Afrikaans mother-tongue speakers, as well as Black and Coloured speakers (databases AA, BA, CA). With the black speaker group, speakers having one of Xhosa, Zulu, Southern Sotho or Northern Sotho as their mother tongue

were included. For the Xhosa, Zulu and Southern Sotho databases only mother-tongue speakers were recruited (databases XX, ZZ, SS). (Roux, Louw, Nieser; 2005:1)

2.2.3 INTELLECTUALIZATION AND CULTURAL IDENTITY

Alexander (2002) has raised the main issues in order to further the debate initiated by Skutnabb-Kangas, Maffi and others who speculated about the ecology of languages paradigm. There is a systematic correlation between the density of biological species and that of languages in certain parts of the world and further more especially in the equatorial belt. The researchers postulated the probability that there is a direct causal, and not merely a correlation link between biological and cultural linguistic diversity. It may turn out to be very difficult to verify this hypothesis but even if it were to be disproved eventually it will not alter the fact that all languages are depositories of knowledge and that some of the endangered languages constitute the only possibility of access to valuable indigenous knowledge that reaches for back into the history of the human species. Indigenous people with a historical continuity of resource use practices often possess a broad knowledge base of the behavior of complex ecological systems in their own localities.

According to Alexander (2002) the middle class African people who have a proper command of the former colonial languages have committed a class suicide; they did not pay attention towards equipping the indigenous languages of the continent with the withdrawal for use in powerful and high status context. The failure of leadership and the willingness of the elites to follow in the wake of their colonial forerunners are, naturally, reflected in the language attitudes that characterized the people in general. Since their role models overtly and repeatedly demonstrate their lack of belief in the capacity of the indigenous languages to fulfill all the functions of languages in all domains of the modern life, the people begin to accept as “natural” the supposed inferiority of their own languages and adopt an approach that is determined by considerations that are related only to the market and social status value of the set of languages in their multilingual society. Those who have relevant scientific information, end up believing that their languages are intrinsically

incapable of attaining the analytical shape and capacity of more powerful languages of the world as we know it today.

All societies, pre-scientific and scientific strive make sense of how the natural world behaves and to apply this knowledge to guide practices of manipulating the environment. Before the use of modern scientific methods, pre-scientific societies accumulated knowledge at a slow pace. Much of this knowledge was qualitative and based on observations on a rather restricted geographical scale. Within these bounds, reference to habitat references, like histories and behaviour patterns of prey species such as birds, could be amazingly detailed. Models of how the natural world functions as well as prescriptions on how to manipulate it are inevitably linked to any society's world view. However, in pre-scientific societies such models and prescriptions are much more closely integrated with moral and religious belief system, so that knowledge, practice and beliefs co-evolve. Modern scientific knowledge, with its accompanying world view of humans as being apart from and above the natural world has been extraordinarily successful in furthering human understanding and manipulation of simpler system. However, neither this world view nor scientific knowledge has been particularly successful when confronted with complex ecological systems. All these prescriptions and histories should be done in the indigenous African languages.

2.2.4 INTELLECTUALIZATION AND SOCIAL COHESION

According to (Alexander, 2005) sociological studies and journalistic investigation, in different models, demonstrate all too clearly what everyone knows, that is, South Africa continues to be trapped in a deeply divided society. What distinguished post apartheid South Africa in this context is the changed relationship between race and class. The top of the social hierarchy has changed, there is definite, if slow, deracialization of the elites taking place, whereas the South Africans are faced with what is often a war of all against all, the result of a most potent cocktail of inherited racial prejudice and jobless growth, which is itself caused by the prevailing macro-economic policy. All the economic and sociological studies undertaken after 1996, confirm that the gap between rich and poor, especially between the black rich and

the black poor, has been widening. Taking the changing Gini coefficient (a measure of income distribution) as a guide to whether economic inequality has improved or worsened. Seeking et al (2004) conclude that:

The census data suggest that overall levels of inequality changed little through second half of the twentieth century. The Gini coefficient for gross income inequality hovered in high 0.65. IES data suggests that inequality worsened between 1995 and 2000, with Gini coefficient for per capita incomes rising from 0.65 to 0.69 or 0.7...

These are the indicatives of socio-economic trends, due to the affirmative-action drive 5 alliances of "race" in post-apartheid South Africa and of the continuing large overlap between colour and class, one of the new foci of sociological and economic studies is what is called the narrowing of the "inter-racial gap" between "Black" and "White". This continuing radicalization of economic and social statistics is caused by the alleged need to measure whether "we" in the "new" South Africa are progressing towards the deracialization of the bourgeoisie and the other ruling strata. According to Alexander (2005) the "middle classes" and a few Black people in the "upper class" are the real beneficiaries of the post-apartheid dispensation and that the plight of the "lower classes" and of the "underclass" has deteriorated considerably, although Schlemmer (2005) in his recent surveys found that what he calls "deep poverty" has not increased because "the extension of social grants has indeed stopped socio-economic rot at the lower levels of livelihoods" (Schlemmer, 2005:3).

There is, thus, no doubt that since 1994 and even before that, the ruling strata have been gradually deracializing. However, the impression created in many media that there is a sudden burgeoning of Black millionaires and even Black billionaires, is not true. Schlemmer (2005) has concluded that the "Black" persons who fit into this category are no more than "a few dozen individuals".

He also exposed as a myth the notion of the “exploding Black middle class”, which is one of the fashionable topics of the print and electronic media for some time now. Schlemmer’s approach and findings warrant serious consideration if we are to arrive at a sensible assessment of the situation and of the prospective social dynamics of the next decade in South Africa. In a nut shell:

Most of the stereotypes and loose impressions about a burgeoning new middle class floating around in popular debates are generally gross exaggerations. Class breakdown and associated trends are far more complex than media hype allows for. The reality is rather bad news for those who are committed to rapid or quick fix transformation. Africans are making progress but it is slower than most people think.

(Schlemmer, 2005:3)

There is a social and cultural distance that has so obviously developed between the Black middle class and the Black working classes. The caste-like distance between the White elites and the Black working class, although it ought to become integrated into social stratification studies, is significant in the present context only in so far as there is evidence of cultural osmosis at the top of the system. Indeed, working class youth in the townships have already done so in practice. They often refer to a wealthy Black person as “umlungu” or “lekgowa” (term for a White man or woman). They recognize a class shift that has taken place for a tiny section of the formerly racially oppressed people. The class divides between the rich and the poor and is taking on cultural features that are necessarily an amalgam of historical and contemporary influences. In the process, institutions such as the extended family, initiation ceremonies, virginity testing and many others are being challenged or falling into disuse. Technological advance and globalization have led to the acceleration of these processes. The real issue is whether it is possible to establish an African version of modernization such that the latter is perceived by everybody as a natural outcome of capitalist development in Africa rather than merely some bad photocopy of metropolitan “culture”.

Four decades after the start of political independences the situation of African languages keeps on widening in terms of inequalities in the field of science, technique and technology. This imbalance between official languages inherited from colonialization, and African languages, far from facilitating a better sharing of modern knowledge and practices jeopardizes any significant involvement of our population in decision making on the other hand, and in the improvement of their living conditions on the other. African states need an instrument for the development of our languages, which will facilitate and reinforce linguistic cooperation between African states, promote the harmonization and the actual implementation of language policies that conform to the aspirations of our working populations.

The formation of an African Academy of Languages (ACALAN) was approved by OAU Heads of States and governments meetings in Lusaka on 09-11 July 2001. The AU decision gave official sanction to the draft status of ACALAN, in which its objectives are described as follows:

- Promoting African languages
- Promoting cross-border languages
- Promoting vernacular cross-border languages
- Strengthening cooperation between African states in the area of African languages
- Promoting African languages at international level
- Analyzing language policies in Africa
- Promoting a scientific and democratize culture based on the use of African languages
- Contributing to the harmonization of the economic, social and cultural development of member states based on African languages, and in relation with partner languages
- Promoting the use of African languages as factors of integration, solidarity, respect of values and mutual understanding in order to promote peace and prevent conflict

- Promoting African language organizations on the continent

Professor Samassekou was elected as the President of ACALAN. At the inauguration of Professor Samassekou, President Konare called on him and his colleagues to:

...take up the challenge to put in place a Pan-African institution capable of helping our states and our people to conceive and develop language policy, relevant and efficient enough to quickly contribute to the renaissance and the unity of Africa... (ACALAN, 2002:8)

Grassroots and quasi-government initiatives geared to the improvement of the quality of education, especially at the level of pre and primary schooling, had been undertaken for many years in most countries of the continent. All of them were single-mindedly working towards the introduction or re-introduction of mother tongue education. The intellectualization of African languages in July 2003, initiated a series of meetings and bilateral encounters in different parts of the continent that culminated in a meeting between their existing network and officials of ACALAN in Yaoundé, Cameroon, in February 2004. The most important outcome of the meeting was the formulation of five continent-wide core projects which it was agreed, would constitute the heart of the substantive programme of ACALAN for the next decade or so. In order to stress the grassroots, action-oriented approach; the core projects were given the name “Implementing the Language Plan of Action for Africa (ILPAA)”. After its establishment ACALAN had numerous conferences, seminars, symposia, workshops and bilateral discussions took place where African linguists and other language professionals, practitioners and activists were the main participant or interlocutors. One of the most significant of these was World Congress of African Linguists (WOCAL) held in the AU Conference Centre in Addis-Ababa from 7-11 August 2006. As a result of the conference deliberations, it was resolved that ACALAN would in future be represented on the executive committee of WOCAL. One of the most significant outcomes of all these different levels and kinds of academic and more practical interactions has been the wide spread network of linguists and related social scientists, political and cultural agencies as well as university

departments, all of which, together in some sense constitute the base of the language planning and language policy development initiatives undertaken by ACALAN. ACALAN marks the beginning of the African languages renaissance that has always been envisaged as an essential aspect of the restoration of dignity and the equality of the people of the continent. It is one of the most ambitious language planning projects in modern history. It represents a vision that places the continent in a perspective that confesses on its entire people the dignity that is rightfully theirs. Linguists' human rights, political democracy, economic development, successful educational systems, national and continental cohesion, all of these are matters that are integrally related to the language question.

2.3 HOW TO INTELLECTUALIZE

Africans need to develop their languages to the highest possible levels in all sectors of society. Mother-tongue education should be rehabilitated within the context of a bilingual educational system where other languages will be English and French in most cases. It is important that Africans should start advocating in all our countries the rehabilitation of mother tongue (MT) education.

The new initiative proposed by AU was to establish an African Academy of languages (ACALAN). The Academy's task was to bring about networking agendas among academics, government officials, and others engaged in language issues. ACALAN needed to be promoted with the full support of the heads of states of the African Union.

ACALAN is an institution of the African Union, and thus Pan-African. It is dedicated to the promotion of African languages and the study of all languages spoken on the continent. It is concerned with lingua franca spread across boundaries because they contribute most to African regional integration, a political aim of the African Union. (Diki-Kidiri, 2008:131)

ACALAN has initiated two projects, which are:

1. The Atlas of African Languages

The task of this project is to produce reliable regional and continental linguistic maps of African languages. It offers African universities and research centers a good opportunity to cooperate in a large network and enhance capacity-building for their students and young researchers.

2. Web Survey of African Languages

This project aims to observe the status and use of African languages in cyberspace by analyzing millions of web pages. The project is a joint initiative between ACALAN and Nagaoka University of Technology in Japan. The observations presented to UNESCO on 22 February 2007, proved to be very rich, offering valuable information.

The software used by the project can be developed by using it with new texts and thus improve its capacity for language recognition. Specialists and professionals who are interested can join the project and provide text in the language they are working on (Diki-Kidiri, 2008).

Under the joint working relationship of the African Academy of Languages (ACALAN), the association of African Universities (AAU) a Council for the Development of Social Science Research in Africa CODESRIA implementation plan to modernize African Languages should be drawn up. Post-graduate students in the area of Applied Language Studies could be mobilized to take action, by analyzing and rendering usable information within two years or shorter period.

The five core projects of ACALAN-ILPAA need to be promoted and the heads of states of the African Union must support it. These core projects are:

- The Year of African Languages (2006)
- The Translation Programme
- The Closely Related Terminology Development Project
- The Pan-African Joint Masters and Doctoral Programme in Applied Linguistic and
- The Stories across Africa Project (Alexander, 2007:37)

These projects must be promoted and be realized gradually and they will help to create a favorable climate to the micro-planning and implementation of a specific language development projects at specific universities in given countries. The work of translating, developing specialized registers, creating innovative literature, training language professionals will be exhilarating and accelerating on those doing the actual work. If these groups can do their work, Pan-Africanism in the context of cultural revolutionary dimension of African Renaissance will assume a new significance.

African universities must expand publication of journals and books in African languages and encourage the culture of reading. It is well known that even university students read very little, and sometimes only the minimum required university students are involved in scholarly debates, technical issues, or have a good command of literature, alternative understanding and viewpoints, and thus developing both critical and creative capacities. These factors call for active engagement with texts and developing the pleasure of reading. Publications in African languages must be reviewed in the same way as colonial languages; they must be accorded comparable status and credit as those languages like English (Szanton, 2003).

Translation is the key element in the intellectualization of African languages. Professionals and scholars must translate key texts in languages from elsewhere in the world, including elsewhere in Africa. They can take material from Europe, Asia, the Middle East and the Americas in those scholars and university students everywhere need to be familiar with in a variety of original languages. "Few Africans can command all the necessary languages and read them in their originality. If they are translated in African languages they will be readily available. Likewise translation of African texts into other languages including other African languages will be important to establish Africa's contribution to the world's literature. Translation will also help both translators and readers to recognize important differences, similarities and universals in human experience, cultural perspectives, knowledge and conceptual systems" (Szanton, 2003:5).

Alexander (2007) indicated that scholars who have focused on the issue of intellectualization of local languages agreed that one of the main mechanisms for bringing about and driving intellectualization is the translation of major works of literacy and scientific creation that exist in more developed languages. The researchers will have to specify African knowledge and their potential contributions to both African and global context and issues. The specialist must identify those African languages for the purpose of intellectualization.

African languages and the national environment in which electronic communication occurs is a virtual reality. According to Kidiri (2008) UNESCO officially launched the Maaya Network in 2007, because it was concerned about the promotion of all world languages and linguistic diversity in cyberspace. It celebrates the world day of mother tongue on February 21. Maaya is a multi-stakeholder network, involving all sectors including civil society governments, international organization, research centers and universities, the media, the private sector and individuals. Its aim is to develop and promote linguistic diversity as a basis of the unity of human communication. Only a very small number of the 6000 languages spoken in the world are available in cyberspace.

The following projects are related to Maaya:

1. The Voices and Text Projects

This network project aims at producing a set of software for speech to text, text to text and text to speech services in African languages.

2. Multi Internet Task Force Project

There is a worldwide debate on about designing an alternative architecture for internet, because the internet architecture currently will not support the ever-increasing volume of world communication. It is experiencing fragmentation. The alternative architecture for internet will have to be multilingual right from the

beginning. Specialists are thinking about an architecture that will support any language in the world.

According to Diki-Kidiri (2008) the Maaya Network is involved in the project in two ways:

- Linguasphere, which is directed at the codification of world languages, so that every language and even every known dialect of a given language can be identified by a unique code.
- ITLF is developing a referential multilingual data register for language empowerment in cyberspace. African languages are naturally involved in the early works of this project.

According to Diki-Kidiri (2008) UNESCO also launched the World Language Documentation Centre (WLDC) in May 2007. It is a non-profit organization that champions linguistic research and facilitates the needs of linguistic community worldwide. WLDC Board consists of 22 experts representing terminology standardization, localization and linguists from around the world.

The aims are:

- To ensure the evaluation, enrichment, maintenance and sustainability of the wealth of information about the languages collected by WLDC and housed in ISO 639-6 databases.
- To liaise with the organization that contributes information and other resources to the WLDC.
- To facilitate the needs of linguistic communities where a trusted party is required to act as intermediary.

The International Development and Research Centre (IDRC) (Diki-Kidiri 2008) was created by the Canadian Parliament in 1970 to help developing countries to use science and technology to find long-lasting solutions to the social, economic and environmental problems which they are confronted with. Their projects include the Pan-African Localization Project. This project aims to develop various tools for major

African Languages In order to adapt ICT and enable African language speakers to use tools in their languages (Diki-Kidiri 2008:135).

Language, Languages and Cultures d'Afrique Noire (LLACAN) is a French research laboratory jointly led by the French National Centre for Scientific Research and the National Institute of Oriental Languages and Civilization. It specializes in the study of sub-Saharan African languages. The body is concerned with the extent in which emerging African languages are standardized.

The intellectualization and translation programme was taken further by the workshop sponsored by Project for the Study of Alternative Education in South Africa (PRAESA) and the Ford Foundation in Cape Town, 8-12 July 2003, agreed to function as a network or community of mutual supportive scholars. Colleagues engaged in a common effort to legitimate and increase the intellectualization and academic use of African languages.

They suggested the following steps:

- the establishment of list to facilitate continued communication among the workshop participants, exchange papers and other relevant material, discussions of priorities among possible projects, the development, funding and implementation of projects. It will begin with initial participant and gradually grow with the identification of people with similar concern.
- The establishment of a website for public dissemination of relevant papers, projects, programmes, conferences, announcement of new publications, information on language issues and funding sources. The website will serve as a basis for hard copy newsletter that could be distributed to universities and other interested parties that may not yet have easy access to internet.
- They have also agreed to produce a popular pamphlet that uses reader friendly and effective language and examples to make the case for mother-tongue and national-language bilingual education. The pamphlet may have

success stories in bi-and multilingual education, and would be published in bulk and in many African languages.

- They also agreed to encourage the organization of small workshops on a number of the key ideas and issues raised during discussions:
 - There should be a workshop on the proposed activities and organizations of ACALAN in an effort to move towards its approval and rapid implementation of programmes
 - A workshop including mathematics and linguists on teaching a unit in higher mathematics in a variety of African languages both as an experiment and a source of experience in intellectualizing the subject and chosen languages
 - The construction and evolution of constitutional provisions and legal frame-works and regulations concerning national languages and languages of instructions in Africa. They will concentrate on the social, economic, political and cultural forces behind the formulation and identify directions of progressive change
 - A workshop on politics of intellectualization focusing specifically on the national and international political and economic forces that are shaping actual language practice and impending the intellectual and academic use of African languages
 - There must be a workshop on language and indigenous knowledge system in various sphere control that would test and demonstrate the extent to which specification and the act of speaking of these knowledge systems is dependent upon close analysis of written and oral African language texts.
 - A workshop on historic, contemporary and best practices in the techniques and principles of terminology construction in a wide variety of professional and intellectual domains
 - There should be a workshop on human language technology focusing on standards, encoding tools and compatibility in the electronic

manipulation and communication of linguistic data analyses and educational materials

- A workshop which is specifically designed to compare the difference in language situations, dynamics and usage in Francophone, Lusophone and Anglophone. The workshop must also encourage the participation of scholars from Francophone, Lusophone and Anglophone
- The development of a large-scale continent-wide translation programme to make available in major African languages key texts from all over the world
- Each country must encourage national competition and prizes for literature in African languages and attention may be on scholarly, fiction, poetry, children's books and other literature. The aim is to help to develop culture of reading and to focus public attention on these books, create markets for them and encourage writers to use African languages
- Programmes which will provide training for both young academics and practitioners, and build skilled cohorts and colleagues committed to developing the educational potentials of African languages. There must be a collaborative multi-university and multi-country, MA programme on bilingual and multilingual education at all levels of education. Language, literature and linguistic departments and colleagues should be encouraged to identify students with strong language interest and skills, and encourage them to apply for the MA programmes
- The use of popular media, both electronic and print, to demonstrate and make the case for wider use of African languages in cultural, political and economic discussions as well as in education contexts must be encouraged
- African languages and literature departments must be linked with their counterparts linguistic departments and they must also be linked

with the frequently multiple campus-based languages, oriented student clubs, and similar organizations in a large community

- The universities must be encouraged through incentives for teaching and publishing journals in the indigenous African languages. Africans can adopt low-cost incentives that has been used effectively in the Philippines to encourage intellectualization of Filipino, and which could be adopted in African universities
- National language audits must be conducted to provide better information than currently available on actual language use, bi-and multilingualism, code switching, degrees of literacy, urban/rural gender, declining or dying languages context for use of local, national and colonial languages
- Experimental pilot projects, both technical and pedagogic, in teaching African languages at different levels of education among different levels of education among different categories of learners must be conducted
- High quality, computerized, standardized teaching materials for major African languages must be developed (Szanton, 2003:12).

South African authorities and the specialists in various fields have committed themselves with passion to the furthest possible development of the indigenous African languages. According to Szanton (2003) The November 2002 Language Policy for Higher Education indicated that all higher education institutions should participate in facilitating and developing all South African indigenous languages to be used in all high status functions, in the same way as English and Afrikaans.

In terms of this policy framework, the research and development work required in the case of each of the endangered and marginalized South African languages will be concentrated in centres for language development which will be located in chosen high education institutions. The idea is that certain universities will be given the task of developing specific languages such as isiZulu, or isiXhosa, or Sesotho or Setswana, over a period of 10 to 15 years. The development and implementation plan should

be formulated for each language in such a way that it will be clear when they will be able to use the languages for tuition in specific disciplines. Each and every institution will decide when to use the language in order to teach, for example isiXhosa at the University of Cape Town can be used to teach history or geography or mathematics.

The institutions must formulate and publish its language policy so that the extent to which they are in compliance with the legislation can be determined at a glance. The ACALAN, the AAU and CODESRIA, acting in concert could within a very short time get every African university to undertake this task as a necessary precursor to everything else.

According to Alexander (2007) the standardization of orthography in all the languages should be common so that we may ultimately have the same orthographic convention for all the languages. This is also an important task, especially for cross-border languages. In Sesotho, the spelling in South Africa is very much different from that in Lesotho itself. South African people are unable to read text emanating from other countries in Africa. The Africans should harmonize orthographies of their language. The electronic, print and media in African languages must be promoted, as it happens in some West and East countries. In South Africa, universities and higher education institutions have begun formulating their language policies in respect of which languages are taught as subjects and some of the languages are used as languages of tuition. African languages should be “adopted” for modernization purposes and should be encouraged among the youth for investment and tourism considerations. Some of the African universities are taking this task very seriously e.g. Rhodes University has more than (60) sixty students doing Honours and Masters in African languages, and the purpose is to intellectualize African indigenous languages.

According to Alexander, Stellenbosch is also one of the foremost universities which is seriously implementing and addressing intellectualization and modernization of African languages.

2.4 EXPERIENCE OF OTHER ATTEMPTS TO INTELLECTUALIZE

2.4.1 INTELLECTUALIZATION EFFORTS IN TANZANIA

According to Mwansoro (2004), Kiswahili was established as a lingua franca in the whole East and Central Africa by the middle of the 20th century. In Tanzania the language was used as a medium of instruction during the missionary and colonial government. It was used at elementary schools and as a working language for the ancillary civil servants.

The modernization and intellectualization of the language was undertaken by the missionaries while the standardization of the language as well as its terminological development was done by the Inter-Territorial Language Committee (ITLC) (Mwansoro, 2004) which was established by the British colonial government in January 1930. The language was established as a national and official language in 1963, it became the language of conducting most of the government official business, including the parliament, the language of primary education, and the language of lower courts.

The modernization of Kiswahili for special communication began with the introduction of formal education in Tanzania. After independence a number of language planning agencies (LPA) were established and given a task to further modernization of Kiswahili for special communication, including its use in the education sector. The LPA include the Institute of Kiswahili Research (IKR) (Mwansoro 2004) which is responsible for conducting research in all aspects of Kiswahili, including terminology development.

The Department of Kiswahili which trains Kiswahili teachers for post primary levels as well as conducting research in various fields of Kiswahili scholarships. The Tanzanian Institute of Education (TIE) (Mwansoro, 2004) is responsible for curriculum development for schools and colleges and organizing subject panels for writing textbook. National Kiswahili Council coordinates the activities of the other LPA and standardizes their language related outputs, including terminology and textual materials (Mwansoro, 2004:154). The new education medium policy in

Tanzania of 1997 which is note yet implemented submitted that Kiswahili will be used as a medium of instruction throughout the country's education system.

The following institutions in Tanzania use Kiswahili language in their operation:

1. The Institute of Kiswahili Research (IKR) (Mwansoro, 2004:156)

The institute is responsible for furtherance of Kiswahili language in all aspects; they undertake research in Kiswahili Phonology, morphology, syntax, socio-linguistic, dialectology, oral and written Kiswahili literature. It was given a leading role in Kiswahili modernization and has already published more textbooks and dictionaries in Kiswahili.

2. The Department of Kiswahili, University of Dar Es Salaam (Mwansoro, 2004:156)

The task of this Department is to train future Kiswahili experts, especially the much needed graduate Kiswahili teachers and tutors for Secondary schools and colleges of education. The Department also offers advanced courses leading to MA degrees and supervised extended research leading to PhD degrees in Kiswahili linguistic and literature. The students are required to study the following courses: General linguistic, Socio-linguistics, Psycholinguistic, Kiswahili Phonetics and Phonology, Morphology and Syntax, Advanced Kiswahili usage, Creative QWriting and Kiswahili Literature, Translation Theory and Analysis. The medium of teaching is Kiswahili itself.

3. Kiswahili Unit, Open University of Tanzania (Mwansoro, 2004:157)

This is a teaching unit preparing Kiswahili graduate teachers for Secondary Schools and tutors for teachers; colleges.

4. Zanzibar University and State University of Zanzibar (Mwansoro, 2004:156)

They are the small recently established universities of the Island of Zanzibar which offer Kiswahili courses using the same language for instructional purposes.

THE ROLE OF FACULTY IN KISWAHILI DEVELOPMENT

The faculty specializing in Kiswahili at the university of Dar Es Salaam and the Open University of Tanzania are responsible for precise Kiswahili grammars, for formulating the principles and guidelines of Kiswahili terminology coinage and standardization, for coining and standardizing the Kiswahili technical terminologies for translating into Kiswahili some of the text and reference books for advanced learning and for developing the Kiswahili styles and forms of discourse. According to Mwansoro (2004) The IKR's efforts to apply information technology (IT) in the development of Kiswahili has been done with the cooperation with the Department of Asian and African Studies of the University of Helsinki, Finland, the IKR has been able to access corpus of over 10 million words, programmes for working in Kiswahili corpus, and Kiswahili spell checker. It has also compiled two dictionaries, English-Kiswahili dictionary and the Kiswahili-English Dictionary into CD Rom. Members of other Departments who are sometimes totally related to language studies, have also been writing their research findings not only in Kiswahili but sometimes on Kiswahili itself. These scholars come from English, Economics, Literature, Political Science, History and Sociology fields. This does not mean that the intellectualization of Kiswahili has been easy; there were some factors which are limiting further intellectualization of Kiswahili language in higher education (Mwansoro, 2004).

There is a growing interest among non-Kiswahili in higher education institutions, in using Kiswahili for academic purposes. There are concrete examples of books which are published in Kiswahili, particularly the University of Dar Es Salaam. Students from the university who are following courses such as linguistics, literature, political science, history and others which are offered in English refer extensively and with enthusiasm to the available Kiswahili reference materials in those fields. This indicates that the students will support further Kiswahili intellectualization schemes in universities. On the other hand, the Chancellor of the recently (2002) established

Mzumbe University has also in his formal installation speech, expressed strongly his favor and desire of the university becoming fully “Kiswahilized” in terms of instructional medium in the near future (Mwansoro, 2004).

2.4.2 THE USE OF LOCAL AFRICAN LANGUAGES AS LANGUAGES OF SCIENCE: THE UNIVERSITY OF PRETORIA EXPERIENCE

The University of Pretoria Foundation Year Programme in mathematics and the basic science (UPFY) is designed as follows:

The aim of the programme was to prepare disadvantaged students to enter the mainstream courses offered at the university. The medium of instruction was English and they followed a year-long programme where they studied Physics, Mathematics, and Chemistry, Biology and English and Study skills. According to Kidiri (2008) the physics class which he had observed students did not limit themselves to the use of English only and would converse amongst themselves in their different primary languages in class. Most of them also welcomed some clarification of concepts by their lecturer in their primary language.

Diki-Kidiri (2008) also used the force concept inventory to test the effect of the language of testing on student performance. He selected the following languages because they were the main primary languages of the UPFY and Mamelodi students: Southern Sotho (Sesotho), Northern Sotho (Sepedi), Tswana (Setswana), Venda (TshiVenda) and Zulu (isiZulu), Afrikaans and English. Three groups of students of equal academic strength were chosen to represent those who wrote the FCI from an English only question paper, secondly those who wrote from bilingual question paper, and thirdly those who wrote from a question paper in their primary language only. The students were assigned into the different language groups based on data that they supplied concerning their primary or home language. The use of those languages according to the researcher was problematic in a number of cases as some students were not able to read these languages since they have not done the languages in primary and secondary schools.

The students were divided into three groups. In group A they were given the English only version of the FCI. For Group B the version was their primary language, and Group C were given a bilingual version. The FCI test was conducted on 22 July 2005 and the subject which was used was physics and that was the first pre-test. Here they concentrated on heat, measurements and light. The FCI post-test was conducted on 25 October 2005 after the students had studied some kinematics, statistics and dynamics. He found that the language of the test was not a significant factor in the overall poor performance of the students in both the pre-test and the post-test.

After writing force concepts test the UPFY students were asked to comment on the test. The researcher has found that: only twenty percent of the students who had a bilingual paper thought that the primary language was useful when they had a question paper that was monolingual in the primary language. The students have studied most of their science in English and they were unfamiliar with many physics terms in their primary language. He concluded that there is a considerable and widespread resistance to the use of African languages as sole media of testing, but there is some support for concepts to be explained orally in the primary languages, while the primary medium of instruction remains English (Diki-Kidiri, 2008).

The above discussion sets the scene for the possible intellectualizing of Sepedi as a language of instruction for ICT, as well as for assisting in cognition. It is clear from the above Kiswahili experiences in Tanzania, as well as the work of organizations such as ACALAN and scholars such as Neville Alexander (1995, 2002, 2005) that there is merit in the intellectualizing of African languages, even though there may be resistance from some quarters, including misinformed speakers themselves. The chapter that follows will analyze the Sepedi experience in this regard.

CHAPTER 3

SEPEDI: THE EXPERIENCE

3.1 THE STATE OF SEPEDI USAGE IN SOUTH AFRICA

Sepedi is a home language used by 4.208.980 South Africans (Census 2001). At 9% of the population, Sepedi users make up the fourth largest language group in South Africa. It is one of the 11 official languages of South Africa. The language forms part of the “South Bantu” group of African languages, which in turn form part of the larger Niger – Congo family. When a number of dialects cluster e.g. those of Sepedi, Tswana and Southern Sotho are grouped together we have a language group (Lombard, Louwrence and Kosch, 1986). The central subgroup is further subdivided into geographical regions, each designated by a letter. The Sotho group can be divided into sub-groups which are: the Western, Southern and Northern sub -groups. The S-group of South Africa includes two major dialects: the Nguni and the Sotho, Sepedi language is closely related to Setswana and Sesotho language. Linguists commonly drop the language prefix when referring to these languages, hence Sepedi commonly known as “Pedi”. In many official South African publications the language is also commonly referred to as Sesotho sa Leboa.

The name “Pedi” is not as some believe synonymous with “Northern Sotho”, the official Northern Sotho language encompasses approximately 30 closely related dialects, of which Pedi is but one. As a political unit, the tem “Pedi” refers to people living within the area that was ruled by the Maroteng dynasty during 18th and 19th century. The language is referred to as Sepedi because the “Pedi” was the first tribe in Northern Sotho area which came under the influence of missionaries and the Bible was translated into it. Later the missionaries had to move from Sekukhuneland as a result of certain historical events and the Kopa tribe went with them to Botshabelo near Middleburg. The result was that the Kopa exerted considerable influence on the written language. After 1930 the dialects of Polokwane began to influence written Sepedi (Northern Sotho language. (Lombard, Grobler, Serudu, 1976)

Like the other official languages the written form was first developed by European missionaries during the nineteenth century. Missionaries adopted the dialect of the people of Sekhukhune as the basis of the written standard. This region associated with the term “Pedi” for which reason the term “Sesotho sa Leboa” is preferred by many as an overarching term.

The Sepedi language is usually spoken in Mpumalanga, Gauteng and the Limpopo province, but it is also spoken in Botswana. Sepedi is an agglutinating language in which suffixes and prefixes are used to alter meaning in sentence construction, extensive use is made of affixes to bring about different shades of meaning of a specific root or stem. Secondly the root of a word can be extended by means of different morphemes each with its own shade of meaning. Agglutinating language also have shown certain characteristics of the other two types of languages, e.g. of isolating languages, where a tonal difference between phonologically identical words indicates a difference in meaning of inflexion language, since inflexion properties are observed under certain phonological conditions. Therefore Sepedi (North Sotho) can be described as an agglutinating language with inflexion characteristics (Lombard, Louwrence, Kosch, 1986).

Sepedi is also a tonal language in which the sentence construction tends to be the noun. The dialects of Sepedi have been grouped into six clusters which are:

- (a) South central (Kopa, Ndebele, Sotho)
- (b) Central (Pedi, Kone)
- (c) North – western (Tlokwa, Hananwa, Matlala, Moletji, Mamabolo)
- (d) North Eastern (Lobedu, Phalaborwa, Kgaga)
- (e) Eastern (Pai)
- (F) Eastern central (Pulana, Kutswe)

Most of the literary works that have been produced in Sepedi date from 1940. These include novels, dramas short stories, poetry, traditional literature, grammar manuals and dictionaries. During the apartheid period, the ruling National Party's policy of

Grand Apartheid was built on a vision of ethno-linguistic discrete territories for South Africa's indigenous population. Beginning after 1960, the widely condemned, Bantustans were formed by Prime Minister H.F Verwoerd which resulted in the creation of ten self governing territories in predominantly rural areas. The independent territory of "Leboa" was created in the Northern part of the country and designated as the homeland of Northern Sotho (Sepedi) speakers.

During the apartheid period the ruling National Party's policy created separate language boards for each of the nine standardized indigenous languages. The work of the language development was done by missionaries. Although the Northern Sotho (Sepedi) language board helped to standardize the language, this effect was counteracted by its association with the apartheid education system.

Following the democratic transition in 1994, responsibility for language policy and development now rests with the Department of Arts, Culture, Science and Technology. A new body – the Pan South African Language Board (PanSALB) was also created with the responsibility for language planning. PanSALB has sought to facilitate the further development of the language, both of structure and in terms of everyday use (Kaschula, 1999). The Sepedi Lexicography Unit has therefore been created and is responsible for developing terminology in the language. The policy of separate development during the nationalist government did affect the situation of the Sepedi community.

The language was not supported along the same lines as Afrikaans and English and this retarded its development. Urbanization has also affected the situation of the linguistic community of Sepedi. Some people in the urban areas who are Sepedi (Northern Sotho) speakers do sometimes speak a mixture of languages and this affects the purity of language, for example, Schuring (1985) discusses Pretoria Sotho which has some words which are not Sepedi words.

Sepedi as a spoken language is not threatened according to the UNESCO World Language Report Survey conducted by Mampuru (2000). As an academic subject it is

growing because many institutions which were teaching it through the medium of English are now using it as medium of instruction. The model C schools are now teaching Sepedi as a home Language and English as a first additional language. This is a positive move because new terminology does emerge out of this practice. There is however a concern regarding the drop in student numbers particularly in all African Languages at various academic institutions. Some of the people believe that studying Sepedi as an academic subject is a waste of time and energy as it does not offer employment opportunities like other subjects do. Most of the posts which are published are in Maths and Science or Commerce.

The Sepedi language is used as a subject of study in primary schools secondary schools and tertiary institutions. It is well represented on TV and Radio although not in Newspapers. The only newspaper published in Sepedi is *Seipone* which is only founded in Limpopo mostly in Polokwane. Christians use the language for religious services and ceremonies in both written and spoken forms. Sermons are conducted in Sepedi. The hymns are written in this language and there is a Bible translation. Traditional ceremonies are orally conducted in Sepedi. The use of the Sepedi language in business and labour relations is minimal. English and Afrikaans are still dominating. Very few documents in these categories are translated from English into Sepedi.

Some communities with Venda, Tsonga, Afrikaans, English, Tswana, Xhosa, Zulu and Ndebele first language speakers do speak the Sepedi language and even study it at school and tertiary level as their second language.

3.2 SEPEDI IN EDUCATION

The Sepedi language is used as a subject of study in senior primary school, secondary school and tertiary institutions. The subject statistics for the senior certificate for the years 1998 and 1999, as given by the Department of Education, indicates that Sepedi was registered as a subject by 48,346 and 78,055 candidates respectively. According to the Department of Education, the use of Sepedi as a medium of instruction is 4%. In some schools it is used as a medium of instruction from Grade 1 to Grade 3 while

others use English as medium of instruction. There is also evidence of some code switching in classes during teaching (Department of Education Statistics; 1999).

The bodies and organizations that promote the knowledge and/or use of the language are the Departments of Arts, Culture, Science and Technology which is engaged in the translation of Government documents and literary material from English or other languages into the Sepedi and they also render terminology services. PanSALB has established a Lexicography unit, responsible for the dictionaries in the Sepedi language. The African languages Association of South Africa and the African Association for Lexicography carry out research on the development of this language and other languages. Thobela FM and some programmes on SABC 2 do promote the use of Sepedi language (Mampuru, 2000). The language has a literary tradition. The Northern Sotho (Sepedi) people did have their own literature, which was practiced by the community itself as part and parcel of their daily rituals and ceremonies. They have prose narratives, stylized sayings, praise poems and songs. At the beginning of the nineteenth century the missionaries reduced Sepedi to writing by translating the Bible into Sepedi. Many books of different genres have been published since then. Serudu in Gerard states: Comparative Literature and African Literature give a survey on Sepedi literature from the early endeavors of the missionaries to the modern Northern Sotho (Sepedi) literature 1940 – 1989. The literary works in the Sepedi language include novels, dramas, short stories, essay, poetry, traditional literature, grammar manuals and dictionaries. In 1935 E.M. Ramaila's 'Tša bophelo bja moruti Abram Serote' and 'D.M. Phala's Kxhomo 'a tshwa' were published. The works laid the foundation on which later writers like Mamogobo, Motsepe and Mminele built (Mampuru, 2000).

Sepedi which is one of the official languages of South Africa is still not fully developed for use in all societal functions. The selection of an official language usually comes with strong government support concerning the development of such selected languages. Obviously English and Afrikaans received adequate attention with respect to corpus and status development. The indigenous languages, despite their language boards, received very little support, which was mainly directed at

terminological development. The scenario has been politicized, with the association of language with apartheid, which has stigmatized the mother-tongue instruction principle. Most schools for black people have opted for English as medium of instruction from the first day of school attendance. Most teachers in such schools have a limited competence in English and most rural pupils have an even weaker knowledge of English.

The role of the missionaries with regard to language cannot be ignored. They spread knowledge of English among African people in this country. The few Black teachers and preachers who were produced in this country were competent and became what are called Black English men. African people's desire to spread the Gospel among the non-Christians made it necessary to reduce the indigenous languages to writing and teach those written languages as widely as possible. As Africans became more literate in Sotho and Nguni and missionaries helped to train people as preachers and interpreters in courts and in other government institutions. They wrote in Sepedi languages and translated Bible passages and hymns also into Sepedi. Gradually the languages were transformed into written languages and also taught in a non-religious context.

Under the system of apartheid schools and universities were racially segregated. There were different education departments each with its own objectives according to what the government had determined as social, economic and political needs of that group. Black education was administered by the former Department of Bantu Administration and Development, the Coloured people fell under the Coloured People's Representative Council, and Asians were controlled by the Department of Indian Affairs and Whites by the Department of National Education. Under this system teachers had to teach only those of their own designated race. The Sepedi people strongly stigmatized Afrikaans and it is regarded by some people as a language of oppression and is directly associated with apartheid. English is rated highly as most black people see it as the language of liberation.

Multilingualism is a problem for Sepedi people. There is no provincial arrangement to encourage people to learn other African languages or to create a smooth communication system. The learning and teaching of African languages as second languages for African and non-African learners' is not actively encouraged. There is a shortage of well trained language practitioners and language specialists to translate texts and interpret discourse in a number of different forms. There is now a need for multilingual interpreters. Language of study has become an important area for educational institutions, most of which lack relevant qualified teaching staff. Most of the Sepedi teachers do not have the expected professional and academic language qualifications. There is a need for terminologists and lexicographers since some official languages like Sepedi need to be developed.

3.3 SEPEDI AND TECHNOLOGY

As with many of the African languages the state of Sepedi in the technological realm is limited. However, there are a number of resources that support Sepedi (Pare, 2008; Rammala, 2008:1). These include, inter alia:

1. Online Northern Sotho (Sesotho sa Leboa) English dictionary (new 22 April 2003) over 24900 Sesotho sa Leboa to English entries.
2. Pukuntšutlhaloši ya Sesotho sa leboa ka Inthanete/ online explanatory Sesotho sa leboa dictionary new (10 June 2004) online monolingual Northern Sotho dictionary.
3. Linguistics Terminology: Northern Sotho – English

Birds and trees list: English to Northern Sotho (Flora and fauna) books. There are also a number of services that support translation requirements, for example:

- Web-lingo South African based online translation service offering general and technical translations, development of multilingual websites and software localization services.
- Folio translation consultants "specializing in African, Major European and Asian language".

- Jako Olivier language services for fast, reliable and quality translation between English and Afrikaans, Ndebele, Northern Sotho (Sepedi) Otjiherero, Sesotho, Shona, Swahili, Swati, Tsonga, Tswana, Venda, Xhosa and Zulu.
- Asterisks.com editing and translation services online, specializing in the official languages of South Africa.
- Lingua consultants specialize in medical, pharmaceutical and chemical fields in European African languages.
- Multilingual translation and interpretation services ([http://11 African languages .com / Northern Sotho](http://11Africanlanguages.com/NorthernSotho)).

The translation of senior certificate physical science papers and the memorandum into Northern Sotho (Sepedi) has been undertaken, while a study guide was produced in 2001, with the funding from the Pan South African language Board (PanSALB) which is similar to the widely used English and Afrikaans, the “questions and answers” of the study guide used English and Northern Sotho (Sepedi).

This was the first time that physics and chemistry material had been developed in an African language up to secondary school level in S.A. PanSALB was interested to observe the reception that the book received from its target audience, which was Grade 11 and Grade 12 high school learners.

The researcher designed a questionnaire which the learners filled in before receiving the study guide. The learners were also asked to fill in some questionnaires during the year and at the end of their Grade 12 year. Pare (2008) discovered that while only 59% of the learners actually used the book, 41% agreed that Sepedi part was useful and 46% found that English part of the book was useful.

This shows that even if the majority did not find science material in primary language useful, there is a sizeable minority that does benefit from having science material translated into the primary language. Whereas only 14% found the English section not useful, 42% found Sepedi section not useful. This could be because a sizeable

number of students did use Northern Sotho (Sepedi) as their home language which could have been Tswana, Zulu, Venda or Tsonga given the multilingual nature of Pretoria.

As referenced by the Department of Arts and Culture (2005), the Department of Communications (DOC) embarked on a project collecting and documenting terms in the field of ICT to facilitate access for all South Africans to information in the relevant field. The initial list contained 300 technical terms from the telecommunications, broad casting, e-commerce and postal sectors. The DOC approached the National Language Service to assist them with the tasks. When the terminologists made analysis of the nature of these terms were very technical and some terms clearly had been collected from legal documents. It was then agreed that the technical terms which are also used in general communication in these sector would be handled first as a wider spectrum of users would benefit from data collection. About 150 terms were identified and documented for the first experimental phase of the project. It was essential to define these terms since definitions assist collaborators to find and coin terms in the target languages. Several reputable and online dictionaries were used to aid the writing of the definitions. The DOC involved the SABC, South African Postal Services (SAPOS) and Telkom to assist in finalizing the definitions. Those institutions evaluated and validated the relevance and register of the contents. (Department of Arts and Culture, Multilingual Terminology for Information Communication Technology, 2005:3-4)

De Schryver and Prinsloo investigated from lexicographic perspective the preferences of Northern Sotho (Sepedi) mother-tongue speakers for loan words versus so-called “traditional” or original counterparts in the language. Results were obtained from a survey conducted among 100 randomly selected mother tongue speakers from different age and gender groups, whose backgrounds, places of residence, etc would be analyzed.

The use of loan words versus their (more) indigenous counterparts is studied in various disciplines such as science and technology, socio – linguistics, syntax and

semantics, morphology and phonology and lexicography from a lexicographic perspective. The issue to be investigated links well with one of the fundamental dichotomies in dictionary compilation, namely, prescriptiveness versus descriptiveness.

Prinsloo (1992) rightfully emphasizes that the then Sepedi (Northern Sotho) Language Board made an invaluable contribution towards the clarification, systematization, standardized and coining of new terms for Sepedi in, for example, religion, news broad casting, mathematics general science, etc. The last Terminology and Orthography for Northern Sotho (TXO) produced by this language board was published in 1988 (Departmental Northern Sotho Language Board 1988). The Language Board adopted a sensible approach in being prescriptive in the coinage and approval/ disapproval of terminology on the one hand, while still placing a high premium on actual usage as criterion for acceptability on the other hand. The Language Board (TXO: 3) allows for more than one option rather than attempting to enforce just one term while suppressing others. It is anticipated that practical usage of the terms offered will prove that some of them can be replaced by other more commendable ones.

The same holds true for the language Boards' attitude towards certain entries in existing dictionaries:

Certain new terms and concepts are included which appear in some dictionaries but which are not generally accepted in the language yet. In such instances the Sepedi (Northern Sotho language Board devised a term of their own which in their opinion is more appropriate). (TXO: 1)

For example, in the case of the month of the year, the then Language Board prescribes the use of "Sothoised" terms like Matšhe "March" instead of Hlakola, Aporele "April" instead of Moranang etc. If the actual usage of the traditional terms would gain in importance or even prevail, a normalizing board would have to back down and take a more descriptive approach. There might be other factors

influencing the choice in respect of months of the year, like lack of one – to one correlation between the traditional name and the actual month to which it refers. As a matter of fact, Ziervogel and Mokgokong (1975) states that, Monareng can refer to both April and June, Phato to both August and October, Pherekong to both January and March etc.

More recently lexicographers such as Nong have introduced the term proscriptiveness as follows:

I wish to suggest a specification and the introduction of a new term, proscription, which in actual fact is only new as a term, since the phenomenon itself is known in many dictionaries around the world.

What is meant is the suggested use of a certain variant based on an exact analysis of an empirical basis without prohibiting other existing variants.

(Nong et al, 2002:12)

The task of the proscriptive compiler of dictionaries for Sepedi (Northern Sotho) in terms of loan words versus their (more) indigenous counterparts, is thus, to reflect user preferences in the selection of lemma signs on the macrostructure level as well as in the extend of treatment on the microstructure level, while still allowing for other existing variants. Consequently, within a proscriptive approach towards the lemmatization of loan words in contrast to their “traditional” or original counterparts, it is imperative for the lexicographer to know what the preferences of the target user group are in this regard.

The researcher conducted a basic survey of loan words within the community. The survey was of loan words versus indigenous words in Sepedi (Northern Sotho):

Number of respondents: 100

Male: 47

Female: 57

The researcher presented a total of 64 single word in pairs to the respondents thus 32 pairs of each containing a loan word and a (more) indigenous counter part. Respondents were asked to mark alternatives which they would like to see included in a Sepedi dictionary. A third column was added for comments and suggestions of other words considered to be still better than the two choices offered. Respondents were also invited to report spelling errors or suggest improvement of spelling, and even to motivate why a word should be included or excluded from the dictionary.

ANALYZING THE SURVEY

The results were analyzed in three levels:

Firstly each respondent's input was analyzed in isolation. This resulted in 100 user profiles (level 1).

Secondly these 100 profiles were summarized, upon which general tendencies became evident (level 2).

Thirdly each L-I pair was studied separately, which provided interesting and highly specific data for each specific L-I pair. For each of these pairs, frequency counts derived from a corpus as well as the treatment in all currently available dictionaries were also taken into account (level 3).

The 100 filled-in questionnaires were processed in spread-sheet format, reflecting each pair and the full statistical response for every pair-viz a score for L, a score for I, and a score for both.

Most of the respondents were in favour of the indigenous word. The following remark by one of the respondents is quite revealing in this respect.

I personally believe that our language will lose value if more and more words from other languages are accepted in Sepedi. If we have original Sepedi

words, why do we have to loan words from other languages? I don't see the necessity for us to loan words from other languages if we have our own original words. Only those words which do not exist in our language could be loaned from other languages, for example AIDS. The Zulus have managed to formulate their own words for AIDS and called it Nxulazi (sic) why can't we the Northern Sotho people do same and stop learning from other languages?

From the findings, males prefer the inclusion of loan words in dictionaries than females do. Indigenous words also take overwhelming preference over loan words in written texts. The nouns that were the topic of the study appear more often in their singular form than in their plural form.

The respondents' inputs and the corpus data was also compared with the overall treatment in the 9 currently available dictionaries. Generally the respondents prefer the (more) indigenous words to be in dictionaries, and that loan words should only be used if there is no good alternative in Northern Sotho. The most important finding of the study is that younger respondents seem to accept loan words much more easily than the older generation. This might be a result of the intensified influence from other languages in both rural and urban areas, as well as a direct consequence of the fact that most teenagers are no longer enrolling for Sepedi as a school subject. Also, older people tend to favour so called "old words" that are no longer known by the young of today.

In conclusion, first preference is still given to more indigenous words over loan words wherever there is a choice. This pattern is rapidly changing and today's dictionaries should definitely pay more attention to loan words than dictionaries compiled half century ago. (Nong et al, 2002).

3.4 RESEARCH AND DEVELOPMENT OF SEPEDI

Given the widely accepted requirement for the strengthening of African languages there are a growing number of projects at many institutions that are address the need and the scope for developing African languages. In the case of Sepedi this is

also true. Here a brief synopsis of some of the most relevant projects will be given, this will give a better understanding of the state of Sepedi and its intellectualization.

One of the leading projects in this regard is a research project on the socio-linguistic Development of African languages was conducted at the University of Pretoria. It considered language, educational effectiveness and economic outcomes and is referenced as Le30.

Le30 was directed at the medium of instruction and the language of teaching. The target group was entry learners (Grade 10, N1) in a Pretoria college for FET, and the subject area was Industrial Electronics.

The major aims of the Le30 were:

- To demonstrate that training delivered in learners first language (L1) will lead to improve knowledge and understanding of the content material of subjects as well as to improve cognitive, social and affective skills and consequently, to higher workplace effectiveness and eventually, to better earnings by employees.
- To demonstrate that an African language can be used effectively for teaching and learning in a highly technical field of study, viz. Industrial Electronics.
- To demonstrate that the use of an indigenous language as medium of instruction will not lead to the neglect of English proficiency, since English language proficiency can be developed quite effectively if ESL teaching and learning is upgraded regarding the curricula, the educational materials and didactic methods.
- To contribute towards the promotion of indigenous languages, in particular to increasing their economic value and,
- To contribute towards realizing the constitutional objectives of linguistic equity and parity of esteem. (Webb, 2007:1). The researchers were forced to abandon the empirical parts of the project because the Department of

Education did not co-operate with them they are now focusing on the following tasks.

- Compiling a bilingual technical learner's dictionary for industrial Electronics. English – Northern Sotho (Sepedi) to be expanded into a quadrilingual dictionary. (English, Northern Sotho) IsiZulu and Xitsonga) containing also learning words and specifically designed to assist ESL learners.
- Assess the Sepedi (Northern Sotho) language proficiency of learners.
- Assess the English language proficiency of learners.
- Determine the language attitudes and preferences of learners.

According to the researchers a preliminary 437 page report on the work under taken in Le30 has been submitted to the Swiss Development Agency, but the latter task still needs completion. Complementing Le30 are two projects which are funded by PanSALB and administered by the department:

The first project concerns the development of African languages as a medium of instruction at tertiary institutions. The project is facilitated by Prof. Rachelle Gauton, and seeks to standardize the linguistic and literary terms used at South African higher education institutions in the teaching of Sepedi/Sesotho sa Leboa and IsiZulu.

Firstly the researchers will collect all terms currently in use in the teaching of these languages as first languages. Preliminary standardization will be done by means of consensus within the literary and linguistic community, with the final standardization being done by the relevant language bodies.

According to Web (2007) a second project jointly managed by Dr Elsabe and Prof Rachelle Gauton, is the compilation of a standardized terminology of basic chemistry terms in Sepedi (Northern Sotho) and IsiZulu. The project forms part of a larger undertaking which has as its final aim the publication of a quadrilingual explanatory dictionary of chemistry. Both these projects have a very strong training component and since the successful completion of the project is fully dependent on the input of

first language, speaking of the languages in question, these projects have been integrated into the (course work) programme in African languages offered by the Department. Students participating in these projects receive intensive training in translation and terminology and are credited with either one or two modules depending on whether they participate in one or both of these projects.

Prof Daniel Prinsloo has compiled lexica for Sesotho sa Leboa, Setswana, IsiXhosa and IsuZulu for a major joint venture by the project leader. North West University, UNISA and UP are going to build spellcheckers for these language for integration in Microsoft Office. (Webb, 2007)

The Association for the Development of African languages in Education, Science and Technology (ADALEST) is an institution directed at the promotion of the use of African languages in education, science and technology. Recognizing the importance of African languages in African development and poverty alleviation, education and literacy for all, self esteem and self determination, and for enjoying basic human rights for children and adults alike ADALEST wishes to bring together language scholars and language practitioners concerned with the proportion of African languages in education, science and technology, to exchange ideas and share their findings and experiences on the role of African languages in education, science and technology.

The Parliamentary Legal Advisors responded to public submissions made in relation to proposed constitutional amendments. They addressed the submissions by the PanSALB and commission for the promotion and protection of the rights of cultural, Religious and Linguistics communities that Sepedi should be removed as an official language from the constitution. The region of Northern Sotho consisted of people speaking different dialects of Sesotho sa Leboa. Sepedi was one of those dialects. It was submitted by PanSALB that elevating this dialect above others to the status of an official language was incorrect. The committee, PanSALB and CLRC have not yet agreed and no final decision was made concerning the Sepedi (Sesotho sa Leboa: 2006).

It can be argued that these projects represent a major step in the right direction, but it must be recognized that more will need to be done to ensure that Sepedi is coherently developed if it is to gain sufficient traction within the education sector. This traction is important if the language is to become effectively intellectualized.

CHAPTER 4

INTELLECTUALIZING SEPEDI

4.1 SEPEDI IN ACTION

The uneven distribution of information and communication technologies in terms of computers and internet against African languages has become commonplace in the discourse on global expansion of the information society. Various statistics like low numbers of telephone accessibility, lack of proper electrification and high illiteracy rates have long characterised the continent, and now joined, not surprisingly, by low indicators for connectivity and access to internet and computers (Osborn, 2006).

The focus in this context is in particular on Sepedi in action within the technological world. This process will include internal term formation, semantic transfer, that is, attaching new meanings to existing words by modifying their semantic content; paraphrase: a short description or explanation and representation of a very productive way by means of which terms are formed in a Sepedi way, compounding which is the process whereby new Sepedi terms are coined by combining existing words or lexical items, borrowing, that is, loan words that have been borrowed or loaned as a whole and their meanings have been retained intact and translations and adoptive, that is, words having been completely adapted to the target language which in Sepedi on the syntactic, morphological and technological levels.

The idea here is to increase access to Sepedi in terms information and communication technologies, encourage digital divide involving questions of choice of Sepedi words and basic literacy issues to illustrate some current ICT dynamics in Sepedi and point out the recommendations. To discuss the potentials for computer and internet open new possibilities for Sepedi literacy efforts, but to open new possibilities for Sepedi literacy instruction to alleviate some of the obstacles to the use of Sepedi in ICT on the levels of policy, attitude and orthographic issues. Sepedi as a spoken and used in other spheres of activity is worth at least proving the opportunity for it to be used in various ways with the new technologies. Such an opportunity becomes a critical concern since Sepedi is an important vehicle for the

expression and generation of Sepedi knowledge. The reliance almost exclusively on other languages such as English and others for the transmission of information and new knowledge puts Sepedi people who are not skilled in these languages, and arguably the societies of which they are part, at a disadvantage (Enguehand and Mbodj, 2003).

The issue certainly goes deeper, as it is legitimate to ask what sort of future there is for languages that are not used actively in ICT. The current state of Sepedi in ICT, that is, in computing and on the internet is hard to qualify but, important to at least characterize. It is clear that Sepedi language is not yet used widely in the content of computing applications or on the internet. This becomes evident, for instance, from the lack of software localized even for major African language.

This situation obviously arises from the underlying sociolinguistic, language policy, and educational contexts. However, it is worth noting that computers and the internet, like formal educational systems a century earlier, have been introduced and disseminated as more or less monolingual media using one or another European language. There is a reflection of both the dominance of the languages inherited from colonization in ICT and the usage of these languages by those people in Africa most likely to use the technology. A quick pro-action of the education authority is necessary to ensure the utilization of web content, e-mail, and other aspects of computing.

African languages including Sepedi are represented on the web but not prominently as media of communication. Diki-Kidiri (2003) did find a significant number of sites that treat African languages in one way or another, but these generally have minimal contents in the languages themselves. A large proportion is sites about African languages, including on line dictionaries and instructional pages. An informal survey done in 2001 as part of a larger report for the Swedish International Development Agency (SIDA) in Tanzania estimated that ten percent of web site with a Tanzanian focus had at least some Swahili content (Miller Esselaar Associates, 2001); but in South Africa (SA) most of the sites did not have majority content in the language.

Other efforts to qualify web content by language worldwide do not show even the most widely spoken African languages at all among the most represented, whereas some minority European languages with relatively few speakers are ranked.

It is also harder to qualify the degree to which Africa languages are used in the content of computer applications in Africa, for instance, on word processors for the production of printed documents. To a certain extent publication in African languages is computerized using specialized software, adaptations for office and personal computer use are less visible. For example, in Senegal, a local non-governmental organization, ANAF has been doing computer training in national languages. Beyond such anecdotal evidence however, there are apparently no surveys of such non-internet use.

Localization of software and web-interfaces for African languages, in particular Sepedi, is an area which is gradually getting increases in attention. According to the Software localization Development Research Centre (2010) the recent announcement from Microsoft Corporation (2004) concerning its increased work on localizing its software, including for Sepedi as part of Africa languages, simply gives this issue a higher profile. There have been other efforts for localizing software on smaller scales for several years. One open source localization project for South African Languages, Translate.org.za, has received a fair amount of attention. As for web-interfaces, the popular search engine Google has a program for localized versions that already have several African language versions translated by volunteers. "A v-web mail" interface was recently localized for Swahili. In future there may be more of this sort of localization going on than is apparent.

The Sepedi use in ICT appears to be marginal in RSA because the factors that define the digital divide tend to minimize the potential for Sepedi language use in ICT. Connectivity is centered on cities and towns where official languages - the same language that are dominant on the internet may be more widely spoken. In addition, only people with means and education, which are also more likely to have facility in use of the official languages, can access computers and internet connections. In

digital divide there is arguably more localized than bridged, being replicated on national and local levels along the lines of deeper social, economic and linguistic divide. In effect there are a number of related factors that disfavour language not associated with wealth and power, even before one gets to language - specific issues. The other reasons why Sepedi is not more used in ICT generally can be grouped into two categories: motivation (the will to use them) and structural factors that affect access and use (the means to do so).

With regard to the motivation, it might be said that while those with access to computers tend to be people who are educated in and socialized to some degree to use the official languages and this less likely to actively seek to use their languages, those who use their first language, for instance, Sepedi but not the official language tend not to be in a position to do much in this area even if they wanted to. Of course the issues surrounding use of the vernacular in RSA are complicated by factors such as status and attitude towards what is indigenous vis-a-vis languages that are seen as providing more economic opportunity. Another motivational factor in the case of web content has to do with the intend audiences to which sites are addressed. Ballantyne (2002) proposes analyzing content in terms of two parameters: "expression", or whether the content is of local or international origin, and "application," or whether the audience is local or international. Much web content relating to Africa, even concerning Africa languages, and whatever the origin, has an external audience, and so would logically tend to use languages understood internationally. Also, much of the web content with intend local application originated from outside of, Africa, where production of content in languages other than English which is not an easy option. There is also a question about how much interest there is among foreign sponsors of ICT projects on or for the continent in considering the issue. In contrast with the situation say in Indian there is less of tendency to assume that local languages will be used on some levels. The South Africans in particular the Sepedi speakers must learn from the Indian ICT policy. One development expert based in Senegal who had years of African experience recently asked quite sincerely why someone who could read French would want to use another (i.e. Sepedi) language.

There are several structural factors limiting Sepedi use, some of these relate to standardization of orthography, which in some cases is subject to change or individual experimentation, and in more than a few cases varies for the same language across borders. A significant number of less widely spoken languages apparently do not have any established orthographies. Another factor is that of special characters used in much orthography which required specialized fonts but now can use Unicode fonts. This point, however, is still contested on the point that Unicode's provisions for certain diacritical characters used in some languages currently pose some inconveniences. On the whole, though, the problem is that the use of Unicode is still not widely understood among technicians and systems administrators in the Republic of South Africa. This in turn relates to a lack of intersection between language policies and ICT policies in Republic of South Africa. In fact, it appears that there is little collaboration between linguists and ICT technicians in Republic of South Africa. Similarly, in development agencies there is generally a lack of knowledge about Sepedi language and linguistics or about basic technical options to facilitate computing in multiple languages. The opinion of the individual with DFI mention above concerning the prospects for Sepedi language in ICT is merely a more extreme example of lack of knowledge of the realities and possibilities. Another structural factor that is as essential as it is obvious, relates to lack of resources to advance work in these categories, even where there is the will and know-how to implement multilingual ICT projects in Republic of South Africa (Tasse, 2003).

There are a number of websites in Sepedi languages, from sophisticated online dictionaries to individual initiatives that revolve some text, created by Africans living abroad. Unlike Sepedi in RSA a recent contact and another indicated that Nigerian language content had been created at Niger1.com site, based in New York as an example. To a certain degree one can provide computer access to people who can not read text through innovative use of the technology, e.g., audio and images, and text-to-speech processing. Such interfaces then imply other kinds in particular computer literacy. This kind of consideration suggests widening both the kinds of ICT

interfaces provided for and the range of literacy accounted for. In effect ICT that can both be made accessible in some ways to illiteracy or semi-literate people and assist in their education begins to imply new approaches both to ICT for development projects and literacy strategies where ICT is introduced (Osborn, 2006).

Beyond redefining access to ICT in Republic of South Africa to more explicitly recognize the important of Sepedi language, and situating the vital concern of literacy in the more effective use of the technology, there are questions of who does what and with what resources. Given some of the impediments to greater use of Sepedi in ICT an interesting consideration is what the international community with interest in Sepedi can do to favour more effect multilingual use of ICT to address longer term needs on the Republic of South Africa. Software application in Sepedi can be regarded both as fundamental means of facilitating greater use of, and soft access to, technology, and as a facilitator for those who wish to develop web content. The localization of software includes both operating system and software application. Operating systems in effect run the computer hardware and host and manage the applications with which users interact. Applications would include a range of programs, from common office type software (Including word processors and spreadsheets), to games, browsers and technically specialized programs such as geographic information systems (GIS).

Several efforts to localize software for Sepedi language were done as early as the 1990's, for instance, DOS-based, word processor for Manding in the N'KO script, a right-to-left writing system. Such early localization in or for Sepedi language is an interesting subject, in part because it occurred during the period before the Windows environment changed the way in which computers operated (a change that paralleled the domination of the market by Microsoft and its office software), and before the explosion in the use of the internet. It was a period in which there were a number of initiatives that were not widely known but nevertheless quite practical. Although such efforts have apparently not generated sustained actively in the changed environment, they still point to early recognition of the potential and may offer some useful experience. In recent years, there has been more recognition

of the need for localized software and efforts to localize. Initiatives such as Translate.org.za have led way among localizers in Republic of South Africa, and there has been some interest by the major proprietary software firm, Microsoft (Software localization: International Development Research Centre).

The following list of African languages (including Sepedi) indicates how they are currently active or completed projects to localize Open Office software:

OPEN OFFICE LOCALISATION PROJECTS			
Language	CODE	WEBSITE	RESPONSIBLE PERSON
Afrikaans	AF	http://af.openoffice.org	Andreas Pauley
Ndebele, South	ND		
Northern Sotho / Sepedi	NS	www.translate.org	Dwayne Bailey
Sotho (Southern)	ST	www.translate.org	Dwayne Bailey
Swazi	SS		
Tsonga	TS		
Tswana	TN	www.translate.org.za	Dwayne Bailey
Venda	VE		

Some other software has also been localized. For example, the nongovernmental organization, Open Knowledge Network, developed its own localized software for project purposes. Another example is children's computer drawing program, Tux paint, which has been localized into Swahili and more recently into isiXhosa and Venda. Yet another is the Mozilla browser in Luanda. Web interfaces is another interesting area to consider in the localization of user interfaces for online tools such as research engines. This area is related both to software localization, in that terminologies and user profiles need to be considered, and to web content, in that it involves the use of African languages on websites, which happen to be user interfaces as well. An example is the Google program, Google in our language, which includes several African languages versions, with several more in development. The

social networking site Facebook also has a localization program, with several African languages versions in development. As a general rule, companies running search engines or networking site use volunteer translators to localize interfaces. This means that the localization depends on individuals or groups offering their time, the languages involve depend on volunteers, and the quality of the translations may vary.

An attempt is made at comprehensive overviews of all currently available African-language Internet dictionaries including Sepedi. Quite surprisingly, a substantial number of such dictionaries are already available, for a large number of languages, with a relatively large number of users. The key characteristics of these dictionaries and various cross language distributions are expounded on. In a second section the first Southern African on line dictionary interface is introduced. Although compiled by just a small number of scholars, this dictionary contains a world's first in that lexicography customization is implemented on various levels in real time on the internet. The keywords in these comprehensive overview of all currently available Africa-Language Internet dictionaries including Sepedi are lexicographic, terminology, dictionaries, Internet, online, look-up mode, brows mode, African languages, Sesotho sa Lebowa, simultaneous feedback, Fuzzy SF, customization. An earlier version of this article was presented at the mini-seminar on and launch of The First South Africa Online Dictionary Interface, held at the University of Pretoria, Pretoria, 20 June, 2003.

African-language lexicography has today gone electronic, dictionaries on CD-ROM typically coming in the back pocket of their hardcopy counterparts, while the number of dictionaries on the Internet already runs into tens thousands. Lexicographers working on the South African languages in particular Sepedi should not merely watch the unrolling of these events from sidelines; they must and can take an active part in writing the future. The wildest futuristic dreams revolve around multimedia Internet dictionaries, for which space restrictions disappear, and for which the output can be tailored to suit each unique user. The aim of this study should therefore be twofold: On the one hand, the results are presented of a

detailed study of current African-language Internet dictionaries. On the other, the first truly South African online dictionary interface is introduced and contrasted with what is already available on the Internet. In South Africa, the *Woordeboek van die Afrikaanse Taal* (WAT), a multi-volume overall-descriptive historical dictionary with a paper past of three quarters of a century, recently went electronic. The entire text of the first eleven volumes was computerized and made available on CD-ROM in mid 2003. It is expected that subscription-based intranet and Internet versions will follow suit. The focus in this study will however be on the African languages, and more particularly on those languages that belong to the language family as the official African languages of South Africa. A comprehensive overview of the features of the various electronic dictionaries, as well as a detailed discussion of their advantages over paper dictionaries, can be found in De Schryver (2003). Suffice it to say here that an electronic dictionary is much more than a dictionary in electronic form. At the very least, the data are stored in database, to which various (search) indexes are added, with a multitude of links to multi-media, as well as, increasingly, Natural Language Processing (NLP) extensions.

Rather surprisingly, these various aspects already exist for some of the African language spoken in South Africa, albeit not yet all together in one integrated Internet dictionary package. An online dictionary for Tshivenda (S21), for example, is available from CBOLD. It contains 8900 lemma signs, all of them searchable from a search screen, yet only with textual output. Sound files were added to various basic travelers' phrases for Sesotho (S33), among others, at Travlang.com, while full multimedia (i.e. text, audio and computer graphics) can be found at e-language for isiZulu (S42). Lastly, an example of an online NLP aspect that has been developed for a South African language is the machine translation (MT) system running between isiXhosa (S41) and English at Xhosa on the web! (O'Kennon, 1996-2003). As argued by Varantola (2002) and De Schryver (2003), multi-media corpora will increasingly become part and parcel of future electronic dictionaries.

This NLP aspect does not yet exist for South Africa languages, but across the boarder Internet-searchable text corpora are already available for Chishona (S11-S12-S14)

and IsiNdebele (or Zimbabwean Ndebele (S44)). These online corpora of respectively 2.2 million and 0.7 million running words were originally assembled with dictionary compilation in mind, and have now been made available to the wider linguistic community (Ridings, 2002).

Although most of the online dictionaries for South African languages have been online for quite some years now, it is somewhat disturbing to note that relatively few people know about their existence. Apart from the fact that the full Internet potential is not used within a single integrated package in any one of them, one of the reasons for their shadowy presence could be that none of these existing online dictionaries was compiled in South Africa, by South Africans for South Africans. All these aspects are niches that can be filled by prospective lexicographers, besides the fact that such lexicographers can of course also improve on current size, quality and functionality.

A systematic overview of online African language Internet dictionaries in this research can only be accessed from a screen. This thus means that one must be able to type in words or sections of words, potentially including wildcards, followed by a mouse click or enter, upon which one or more articles are presented followed by a page-reload. The following three types of dictionaries were considered for this study: online dictionaries, i.e. dictionaries stored in databases over the Internet; pop-up dictionaries, i.e. dictionaries with which once one has downloaded a small pieces of software, one can move the mouse over words online, upon which relevant articles pop-up in dedicated screens; and PC dictionaries, i.e. dictionaries for which piece of software cum one or more lexica are downloaded from the internet, to be used as offline pop-up PC dictionaries. Following the investigation, an impressive number of 182 African language Internet dictionaries were found 165 of online type of the pop-up type, and 9 of the PC type. These 182 dictionaries cover 117 different languages, as well as common Bantu(CB) and Proto Bantu (PB) .PB is the hypothetical language to which all current languages within this family can be traced back , while CB are the c.2800 series of comparative forms that were used by Guthrie to reconstruct PB. The distribution of the number of Internet dictionaries per

language is as follow: Swahili(G42):20X, Chagga(E62):14X, Lingala;5X, Ganda(J15) and isiZulu;4x each, Meru(E61):3X,18 other languages +PB:2X each, and 93 other languages+ CB:1X each.

As for many other real-world phenomena, one notion a Zipfean distribution, i.e. the number of Internet dictionaries is extremely high for just a small number of languages, while the frequency for the great majority is very low. There are relatively many dictionaries for languages such as Swahili, Lingala and isiZulu and that is understandable; these are the languages that also receive much academic (and other) attention. A language such as Sepedi scores high however is out of proportion and in real terms it is not properly researched.

The first South African online dictionary interface was put together by Tshwane DJe, a Human language Technology (HLT) Development team, based in Pretoria and consisting of David Joffe, Gilles-Maurice de Schryver, D.J. Prinsloo and Salmina Nong, therefore decided to bring together all the material for the first South African Internet Dictionary (Joffe, De Schryver and Prinsloo, 2003). The choice fell on Sepedi as a first language for which to compile a dictionary, given that no online dictionaries were found for this language during the course of the internet study. It is hoped that the gained expertise would then be applied to the compilation of other African language Internet dictionaries. The starting point was Nong et al (2000), a Sepedi to English dictionary available to the team in Microsoft Word format. Joffe wrote a parser to transfer the data to Tshwane Lex, a novel and Professional South African Software application for dictionary compilation (Joffe, De Schryver and Prinsloo 2003, 2003a). Tshwane Lex was designed in such a way that it can be used to produce hard copy, CD-ROM as well as online dictionaries. On 22 April 2003, the first version of an online Sepedi-English was uploaded (De Schryver and Joffe, 2003). Two months later, on 20 June 2003, the online dictionary was officially launched at the University of Pretoria. Between the first upload and the launch, several adaptations were made and numerous extra features were added to the online dictionary. As such this dictionary is a direct implementation of the concept known as Simultaneous Feedback (De Schryver and Prinsloo ,2000), a methodology whereby

especially indirect feedback is near-instantly 'feedback' into compilation process of a dictionary. Nong is currently updating the lexicographic contents.

During the first two months, users primarily learned about the new online dictionary through word of mouth. On the eve of the launch, 366 different users had searched for 3341 items, or average 9.12 searches per person. This was equivalent to more than 50 searches by more than 7 different users per day. The first media release appeared two weeks later on 4 July 2003 (cf. e.g. Mail and Guardian Online, 2003). At the end of that day, the number of searches had already reached 5779 by 802 different users, or an average of 78.09 searches by 12:15 persons per day. The great majority of these searches had been made from hosts in South Africa. This clearly exceeded even the wildest expectations at Tshwane Dje. From metalexicographic perspective, this online dictionary deserves some extra discussion and further research.

- Firstly, it is the first African language internet dictionary that can be accessed in all languages covered by the dictionary. In this case, this means that all interface pages are available in both Sepedi and English. Primary speakers of Sepedi can thus for the first time consult a dictionary in their own language.
- Secondly, although actually only the direction Sepedi to English exists, an English search index (which also includes support for multi-word units) has been added which makes it possible to search the dictionary as if the reverse side were also available. The layout of the output is also a first, as it shows how the senses in one language are spread all over the lexicon in another, and how these then again spread out, etc. With 24921 items on the Sepedi side and 28198 in the English index, this online dictionary becomes the largest African language Internet dictionary.
- Thirdly, besides a general-language dictionary, this is also the first online dictionary that includes a dedicated terminology list for an African language. The terminology list that has currently been added is one for linguistics containing over 300 terms, and more terminology lists are planned.
- Fourthly, when consulting the terminology lists, users can choose between look-up and browse mode. This is thus an original implementation of Atkins'

(1996) innovative view of future electronic dictionaries. According to her, “the user is in search of a specific piece of information” in look-up mode, while “a more relaxed reading takes place” in browse mode (Atkins 1996:529). In look-up mode users are furthermore re-routed from (potentially) incorrectly to correctly spelled items of words involving the letters s/š, e/é and o/ô.

- Lastly, and also most importantly, the terminology list contains a world’s first for online dictionary, namely, the customization of the output of part-of-speech (POS) tags, usage labels and cross-references depending on the language chosen. As such, this is the first step towards one concept of the dictionary of the future, viz. Fuzzy SF (De Schryver and Prinsloo, 2001). In Fuzzy SF, or Fuzzy Simultaneous Feedback, log-file based Artificial Intelligence components enable the implicit retrieval of personalised user feedback with which the package customises each user’s own unique dictionary (De Schryver, 2003:189).

All currently available African-language internet dictionaries need to be reviewed, listed and compared to one another. Various statistics were calculated and distributions shown, from which one may conclude that there is a geographic bias towards the languages. In order to turn the relatively inactive online lexicographic tide for the languages spoken in South African, it was indicated how the HLT development team Tshwane Dje decided to produce the first truly South African online dictionary interface. The language embarked upon is Sepedi. Compilation is undertaken within the frameworks of Simultaneous Feedback (SF) and Fuzzy SF, and it was shown how, in less than three months, the number of searches and users had already reached unexpected heights. The dictionary is currently the largest online African language Internet dictionary. Among the novelties of the online Sepedi dictionary, the dual dictionary interface language (including the first in African language), a layout inherently departing from an African language, the first searchable African-language Internet terminology list, the optional look-up and browse modes as well as the first steps towards user customization, were highlighted. As such, South African lexicography is already writing the future.

As referred to in the preceding paragraphs research on electronic dictionary use being intensively investigated in Sepedi, that is, encouraging computer controlled investigations as these will enable an obtrusive monitoring of online dictionary use. The popularization of electronic dictionaries, an increasing number of scholars have pointed out the potential of especially internet dictionaries to generate free implicit feedback, retrievable from log files attached to such dictionaries (De Schryver, 2003a). What impedes the proper investigation to a large extent is the insufficient development of ICT terminology in Sepedi which defines access to ICT more explicitly recognizing the importance of Sepedi language, contextualizing the vital concern of literacy, beginning with basic literacy, in the more effective use of terminology. Reflecting some of the impediments to greater use of Sepedi in ICT an interesting consideration in what the South African Sepedi speaking people with interest can do to encourage more effective multilingual use of ICT to address longer term needs on the continent. When it comes to electronic dictionaries, statements regarding log files are often hypothetical, such as in: "A log file of user access and queries is kept that should serve to give insight on how such a service is used" (Popescu-Belis et al, 2002:144). What is true for log files is also true for the utilization of direct feedback, whereby users are encouraged to comment online on dictionary articles and to suggest new items or whatever is being researched (De Schryver and Joffe, 2003).

The current further research of Sepedi Dictionary Project, a bilingual dictionary between Sepedi and English should be accompanied by a research in Sepedi ICT terminology development to facilitate ICT terminology correlation in both English and Sepedi. The availability of Sepedi dictionary on the internet (<http://africanlanguages.com/sdp>), with approximately 25000 items and 28000 in English search index, as well as a linguistic terminology list of over 300 items encourages research on Sepedi ICT terminology development whereby every Sepedi speaker will be able to access whatever information is needed on the computer. This first Sepedi language internet dictionary allows some form of low-level fuzzy searchers and for which the entire interface can be set to Sepedi in addition to English. The terminology list, indeed need to be further developed, technologized,

customized and localized of the output of part-of-speech (POS) tags, usage labels and cross-references (De Schryver, 2003:12). All these can be realized in real time on the internet. The software used in Sepedi dictionary is Tshwane Lex (Joffe & De Schryver, 2003), a modern compilation program developed by Tshwane DJe HLT (<http://tshwanedje.com>). Using Tshwane Lex the dictionary contents are exported to a MySQL (<http://www.php.net>) database that is stored on a Linux/Apache web server (<http://www.apache.org>). The online dictionary software is implemented using the scripting language PHP (<http://www.php.net>). The PHP scripts generate the HTML based search interface, log-users searches, query the MySQL database and generate the search results. In order to track the number of unique visitors (and to track return visits), each visitor is associated with a unique 128-bit identification number (visitor ID) that is saved in the log file each time that the user performs a search. The visitor ID is generated the first time a user uses dictionary, and it is the ID to be retrieved again during subsequent searches.

This method which is commonly used on the Internet has the advantage of being unobtrusive and transparent to the user (as opposed to, for example, a user registration system with login and password, as is the case for ELDIT). However, it is not foolproof. Some users periodically clear the cookies stored by their browser and other users even block cookies altogether. One can also not distinguish between multiple users who share a computer, or determine when a single user has made use of multiple computers (e.g. a student who uses a computer lab). Nonetheless, the technique is reliable in the majority of cases, providing an error margin of probably not more than 15%.

In addition to the unobtrusive logging of the dictionary users actions, as briefly discussed in the previous section, users are invited to provide the compilers with direct feedback. To that end an online dictionary feedback form (offered in both Sepedi and English) is available, and all this feedback is automatically date stamped and logged. A total of 52 messages were received during the first 6 months, or thus on average two per week. Four out of every ten messages is written in support of the project. It was incredible to the Sepedi speakers that this was available. The project

has further shown how a combination of informal log-file analysis and the processing of formal online feedback forms may lead to improving dictionary contents and to a study of (electronic) dictionary use in an unobtrusive way. With specific reference to Sepedi Internet dictionary, it was indicated that the general trend during the first six months has been one of a growing number of look ups by a growing number of users- already reaching unexpected heights for an African language. Most visits remain local, and being mentioned in the popular press, unlike an academic launch results in huge spikes in the stats. While the distribution of the number of lookups per visitor is Zipfian, most visitors tend to look up frequent items on the one hand, and sexual items on the other. Revisions and improvements of the dictionary may successfully be based on a semi-automatic analysis of the log file, in combination with follow-up on feedback received electronically.

More basic plans inclined smart re-routers for frequent misspelled and orthographically challenging words, where by the software would not merely re-route but also point out correct spelling. The selection of items to re-route ought to be based on frequencies derived from the log files ,and in the case of frequently looked up foreign words a link to a dictionary in that particular language could also be offered. More than ever dictionaries are becoming a service to the community.

Much as dictionaries offer a service to the community, the community as well needs to develop more Sepedi ICT technology to facilitate operating system in effect run the computer hardware and host and manage the application with which users interact. Sepedi application will include a range of programs, from common office-type software (including word processors and spreadsheets), to games, browsers and technical specialized programs such as geographic information systems (GIS). Most work in the development of ICT technology will be related to software applications (such as word processor or browsers, or office suites by Microsoft or open office), but Microsoft has projects for localizing windows. To facilitate the development of ICT terminology open office and fire fox will be utilized, that is using computerized software and Microsoft. The research will involve finding a particular word in both fire fox and open office, checking its meaning in order to establish its

qualitative meaning (terminology development). This will indeed offer some useful experience (for example, in the terminology development and the keyboard layouts used). One tactic for facilitating ICT terminology development and technologization is to design tools to make it easier for potential developers that may have the motivation and the Sepedi language skills, but not the technical background to translate software. The approach in this research is to undertake in other contexts such as compiling local data in an online tool, monitoring the effect of developing ICT technology to people with language skills and FOSS enthusiasm, but without much computer specialization.

In recent years there has been much dire need to develop ICT technology in Sepedi language to enable the Sepedi speakers to assess information and publish it online. The Sepedi technologies also need to be technologized, including semantic transfer that is, attaching new meanings to the existing words by modifying their semantic content. The development of ICT technology will inter-alia encompass paraphrasing, that is, a short description or explanation and represents a very productive way by means of which terms are formed, compounding, that is, the process whereby new terms are coined by combining existing words of lexical items, borrowing, that is, the so called loan words, words that have been borrowed as a whole and their meanings retained intact. Transliterations and adoptives are words that have been completely adopted to the target language, that is, Sepedi language in this context. These words are adopted on the syntactic, morphological and technological levels. This research should ensure that ICT, terminology is used to transfer information about Sepedi, its culture in general not just the language. This could be seen in the form of people being able to access the web in order to find information (Kaschula, 1999). The technical language should translate a certain language to another, for example English to Sepedi in order for Sepedi information to be published on ICT and online.

Having discussed Sepedi in action by selecting tools to be used in the development of Sepedi ICT terminology, the different types of word-formation (popo ya mantšū) methods will be exemplified in order to give an overview of all possible types. This is done since there is an absence of work done in the field of Sepedi ICT terminology

development (LANGTAG IN DACST, 1996 and Alberts, 1997). This research is a practical approach to ICT terminology-formation. This can fulfill a need in the training of terminologists and lexicographers who first of all have to have the necessary linguistic insight in the formation strategies of words or terms. In another dimension such discussion on terminology development methods can lead to the possible publication of a style or reference manual that could be used during such training.

These methods of terminology development draw either on internal resource of the language or on the external resources which are borrowings from other languages. The advantages and disadvantages of the application of these discussed methods of ICT terminology development will also be examined. When terminologists want to coin terms, they basically use the following word-formation patterns of lexical expansion:

- Derivation-word-formation through affixation, that is, creating the term from indigenous roots
- Semantic shift/transfer- giving a new meaning to an existing words or modifying their semantic content.
- Compounding-conjoining two or more words by means of combinations such as NP+NP, VP+NP, etc. In other words; this is a process whereby a new term is coined by combining existing words or lexical items.
- Loan Translation/Calquing, i.e. translating the new term into the target language. This is sometimes referred to as Borrowing whereby certain words have been borrowed as wholes and their meaning have been retained intact.
- Deideophonisation-coining new terms by means of idiophones (onomatopoeic words).
- Abbreviation that is, blending and clipping of phrases or words or using acronyms.
- Paraphrase: it is a short description, explanation and represents a very productive way by means of which term are formed in an African language.

- Transliterations and Adoptive are words that have been completely adopted to the target language, i.e. on the syntactic, morphological and technological levels.

Besides the effective use of such words- formation patterns, the study of Sepedi ICT terminology development would not be complete without our mentioning the way in which such terminology development is linked to extra- linguistic factors such as culture. World view and taboo for instance, are two culture- related sociolinguistic aspects which should be taken into account in any type of terminology of lexicographical development (Van Huyssteen, 2002). Taboo is an umbrella term to refer to terms that are use in a specific social context. According to Sepedi culture it is taboo to refer to terms with sexual connotation in a direct manner. A culturally bound word, considered as part of a world view, such as reeds mat/ sleeping mat (legogwana), is therefore used to indirectly and evasively to refer to most words with a sexual connotation.

Before proceeding directly with a discussion on the Sepedi ICT terminology development, that is, technologizing Sepedi, building on existing base, developing a coherent model for Sepedi and mobilizing Sepedi as a language of science and technology in chapter five it is significant to reflect briefly the differences between ordinary and technical language. In order to understand the concept of ICT language certain aspects such as term; terminology and terminography have to be grasped very well. The definition of term according to Drozd and Roudny is:

The smallest unit of functional language is the term. The term is a naming unit for the technical or scientific concept. The terminology system of concepts is when terms function in a technical or scientific language as the opposite of non-terms... (Drozd and Roudny, 1980: 33)

During the course of the discussion it will be noticed that a term is either a single word or a phrase (word group). The utilization of a term depends to a great extent on how clearly its meaning has been understood (Batibo, 1992). It may not be used if

the intended meaning is feared to be distorted. In the same breath, Cluver (1989) like Batibo (1992) also sees the supply of definitions as significant and reasons that term cannot be standardized without definition. Alberts (1997) in agreement with both Batibo (1992) and Cluver (1989) make it specifically applicable to legal terminology in Sepedi. Other concepts related to term that merit discussion are terminology and terminography. Broadly speaking, the vocabulary of technical language, pertaining to a certain subject field is terminology. Felber (1982) sees terminology as the basis for ordering of knowledge the transfer of knowledge, the formulation of subject information, the condensing of subject information and the storing of such information. Sager offers a clearer definition of terminology by Sager):

Terminology is the study of and the field of activity concerned with the collection, description, processing and presentation of usage of one or more language. (Sager, 1990:2)

According to Cluver (1989:8)

Terminography is generally seen as the scientific processing of technical language and particularly the standardization and lexicographical representation of technical terms. (Cluver , 1989:8)

However, for the purpose of this study, the development of Sepedi ICT terminology, technologizing and intellectualizing Sepedi is the focal point, the intertwinement of concepts of, terminology, lexicography and terminography, have been put into concise perspective and are thus not pursued in details. The aim of terminography as put forward by Cluver in terminology development is to make sure that each concept is clearly identified, defined and named by a proper technical term. Sager adds a practical perspective:

The terminologist describe the concepts of any discipline in three ways: by definition, by their relationship to other concepts- as expressed in linguistic

forms - and by the linguistic forms themselves, the terms, phrases and expressions chosen for their realization in any one language. Sager (1990:21)

The methods of Sepedi ICT terminology development based on both Firefox and Open Office that draw on either the internal and / or foreign resources of the language are derivation, semantic shift , compounding , loan -translation, deideophonisation, borrowing and abbreviation . Reliance on the existing resources is a method which has been applied successfully to retain the character of the Sepedi language (Andrzejewski 1979:105), and that matter, the character of other languages too.

4.2. Derivation

A method of terminology development that mostly draws on the internal resources of the language is derivation. In employing the method of derivation new terms are coined from roots by adding affixes only. In Swahili a similar process is called "prefixal and suffixal verbal derivation." Some scholars such as Mtintsilana and Morris (1988) do not consider derivation as a separate method of terminology development but rather see it as an inherent part of morphological structure of the African language. Poulos and Msimang (1998) have the same view on derivation and therefore treat the whole process of terminology development in Zulu quite extensively under the heading Nominal deriving mechanisms. Derivation is also referred to as native language derivation by Ferguson (1977), the nation trend by Ohly (1981) and outright coinage by Matšela and Mochaba (1986) because of the internal morphemic language resources in this method. Chiwome (1992) and Temu (1984) define it some what differently, calling it a method by means of which new terms are created from existing words. At this stage it is important to distinguish between the concepts, word, root and stem in Sepedi by means of exemplification. Derivation is a method of terminology development which is used abundantly in the African language, employing prefixes and suffixes as in the following Sepedi examples, as applied in Open Office:

Senotlelo, (key) derived as follows:

Se-class 7 noun prefix

-notlel- verbal root (lock up)

-o- impersonal nominal suffix

Dikgetho, (options) derived as follows:

Di- class 10 noun prefix

-kgeth- verbal root

-o- verbal suffix

Modumo (sound) derived as follows:

Mo- class 3 noun prefix

-dum- verbal root

-o verbal suffix

Kakaretšo, (general) derived as follows:

N- class 9 noun prefix

-akaretš verbal root (summarize)

-o verbal suffix

It must be noted carefully, that in the process of derivation, word category change is taking place, that is, the ICT terms in English are being developed in Sepedi. It is for this reason that Cluver (1989) also views this method as conversion. The change in Sepedi ICT terminology development word category in each of these example can for instance, be compared:

- Notlela(lock up) a verb becomes senotlelo (key) a noun
- Duma (sound) a verb becomes modumo (sound) a noun

Derivation can be regarded as an advantageous method of term creation because it mainly draws from the internal resources of language (Adam and Gesheker, 1980 and Andrzejewski, 1979). By employing these internal resources ordinary people can also have access to technology, regulation and training, making the need for foreign experts unnecessary. Therefore the Sepedi language is continually technologically being used and maintained. Another advantage of the derivation method, mentioned by Matšela and Mochaba (1986) with reference to Sepedi and applicable

to all the African language of South Africa, is that it greatly simplifies the task of the term developer (creator). Another example, as applied in the Firefox browser:

Sekgonthiši (verifier) derived as follows:

Se- class 7 noun prefix

- Kgonthiš- verbal root

- lši- applied verbal extension

- i- verbal suffix

Modiriši, (client) derived as follows:

Mo- class 1 noun prefix

-dir- verbal root

-lši verbal suffix

Motšweletši, (Manufacturer) derived as follows:

Mo- class 1 noun prefix

-tšweletš- verbal root

-i verbal suffix

Tshedimošo, (Data)

N-class 9 noun prefix

-Sedimoš- verbal root

-o verbal suffix

Again, it must be noted, that the process of derivation with regard to fricatives (ditumammogagwoša) is written in a peculiar way in both Open Office and Firefox, for instance ,the word verifier (Sekgonthiši) is written as sekgonthiAiA,i; data (tshedimošo) is also written as tshedimoA/o; o in both open office and Firefox. The word paledišitšwe (disabled) is also correlative to the two previous examples. In both Openoffice and Firefox the fricatives (ditumammogogwaša) are written in the same way, in particular their verbal suffixes (š) and (šw), which are referred to as fricatives. The verbal roots of all these words in both Open office and Firefox do not change but remain syntactical. The noun class (prefix) is also not affected in both Open office and Firefox. The fricatives (ditumammogogwaša) (š) and (šw) are written as 'A/o' and it appears to be the manner in which fricatives are written in both Open office and Firefox.

4.3 Compounding

Compounding is another productive method which can be used in Sepedi ICT terminology development in which one word or term is formed from two or more words or terms. Such combinations conform to the existing patterns of derivation (Andrzejewski, 1979). This view is clearly shared by Poulos and Msimang (1998) who treat compounding quite extensively as a nominal deriving system. This view is correct when approached from a morphological perspective since compounding is also a process of affixation (adding prefixes or suffixes) to word combinations. However, not only derivation occurs in compounding but there is also an element of semantic shift (see examples below). What is interesting is that most Sepedi compounds are excellent examples of purist coinage from the internal resources of the language since Sepedi words rather than foreign words are used, e.g. Firefox:

Bookmark manager (taolapukuntšu)

Taola + pukuntšu

Noun + noun

Media (Kgašoditaba)

Kgašo + ditaba

Noun + noun

Protocol (Tatelomolao)

Tatelo + molao

Noun + noun

It must be noted that the compounding cited as examples in the above are two separate words and therefore can also be regarded as a loan-translation. However, it must be made clear yet again that the division between compounding, loan-translation, abbreviation, derivation and even semantic shift, is far from clear-cut as an extent of overlapping occurs. A clear-cut division of word-formation methods in Sepedi is not actually possible but their categorization is attempted in this work for the sake of systematization.

Open office:

There is very little words in Open office which include compounding and loan words, e.g.

Lemon (Swirilamune)

Swiri + lamune

Adjective + Noun

Network (Neteweke)

Nete + weke

Noun + noun

Compounding referred to as such by Mtintsilana and Morris (1988) and Chiwome (1992) is also referred to as 'composition' by others such as Temu (1984) who rightly points out that the components of such compositions may belong to different word categories. Akida (1974) in Ohly (1977) therefore divides compounds into un-cumulative and cumulative compounds. The un-cumulative compound is formed by noun head + qualifier (NP + NP), while the cumulative compound is of a verbo-nominal structure (VP + NP). It is obvious from the examples of compounds listed thus far, that most Sepedi compounds morphologically display a verbo-nominal structure (VP + NP).

4.4 Loan-translation and Paraphrasing

Another productive method for Sepedi ICT terminology development is loan-translation, also known as "paraphrasing" or "calguing". Loan-translation occurs when new terms are created by translation of the meaning of a foreign term into the target language (Sepedi), e.g. "Borehole" is translated as "mokoti wa go ntšha meets" (literally, a hole for the drawing of water). "Blood test" is translated as "diteko tša madi" (literally, the testing of blood). "Antibiotic" is translated as "sebolaya ditwatši" (literally, the killer of germs). "Varicose vein" is translated as "tšhika yeo e rurugilego" (literally, the swollen vein). Had the term "sebolaya ditwatši" (killer of germs - antibiotic) been written as one word, it could have been considered a compound. This implies that (wrong) orthography can determine categorization. However, since the division between compounding and loan-

translation is far from clear-cut, translated terms written as two or more words are for the purposes of this study, regarded as loan-translation. 'Loan-translation' is the term used by scholars such as Chiwome (1992), and 'translation' is the term used by Matšela and Mochaba (1986), while 'calguing' is used by both Abdul-Aziz (1989) and Temu (1984). The term 'paraphrase' is used by Mtintsilana and Morris (19880), seemingly when a single term from the source language is translated into the target language by means of a phrase (two or more words) e.g. the English term 'manual' translated into Sepedi 'puku ya ditlhaloso' (a book of explanations).

Taking examples from Firefox and Open Office, this approach is evident:

Firefox:

- 'Offline support' is translated as 'thekgo ya ntle le go kgomagantšha megala'
- 'Access key' is translated as 'senotlelo sa phihlelelo'
- 'Saved passwords' is translated as 'mantšuphetišo ao a bolokilwego'
- 'Other data' is translated as 'tshedimošo ye nngwe'
- 'Delete E-mail flag' is translated as 'phumula folaga ya e-poso'.
- 'Failed to log in' is translated as 'e paletšwe go notlolla'.
- Internet options' translated as 'dikgetho tša inthanete'
- Web features' is translated as 'diponagalo tša wepe'.
- Install complete' is translated as 'go lokelwa go phethilwe'.
- Security warning' is translated as 'temošo ya tšhireletšo'.
- File name is missing' is translated as 'leina la faele le timetše'.

Open office:

- Empty file' is translated as 'ntšha tšohle ka faeleng'.
- Force Quit' is translated as 'gapeletša go tlogela'.
- Probe the network' is translated as 'fetleka neteweke'.
- Software' is translated as 'lenaneo leo le tsenywago khompuheng'.
- Toolbars' is translated as 'bara ya didirišwa'.
- oom level' is translated as 'magato a kgodišo'.
- Re do' is translated as 'dira gape'.
- Key board' is translated as 'boroto ya dinotlelo'.
- Mouse key' is translated as 'dinotlelo tša legotlwana'.
- Desktop back' is translated as 'boka morago ga teseke'.
- Fill screen' is translated as 'tlatša sekirini'.
- Mail reader' is translated as 'sebadi sa poso'.
- Web browser' is translated as 'sefetleki sa wepe'.

According to Ekwelie (1971) loan translation is not simply the translation of a term into the target language, but it is also the summing up or definition of such a term. The term 'casualty', for instance, is translated into Sepedi as 'motho yo a tlhagetšego

ke kotsi' (a person who got hurt or who died in an accident) and the term 'abort login', for instance, is translated as 'fediša go tsena'. In addition, Matšela and Mochaba (1986) state those extra-linguistic factors such as culture and environment must also be considered to make a translated term relevant and transparent to the speakers of the Sepedi language.

The examples show an element of semantic shift and derivation which proves yet again that the division between methods of term-formation tends to overlap and is thus far from clear-cut. Another possible problem with loan-translation is equivalence. Newmark (1981) in Fourie (1993) rejects the concept of total equivalence between two languages. What however, could be striven for is "... an equivalence in contact of message" in Fourie (1993:82).

4.5 Borrowing

Unlike the method of term-formation which makes use of the internal resources of the language, borrowing is a method of term creation that makes use of foreign language resources. It is usually the less developed language that borrows from the more developed one.

(Hlongwane, 1995 and Matšela & Mochaba, 1986); provide an example of 'server' in English and in Sepedi is borrowed as 'Sebara' as written in Firefox. No language is self-sufficient (Nkondo, 1987) because no perfectly homogeneous language group exists (Jafta, 1987). As soon as languages come into contact, they start borrowing from one another, i.e. they start sharing, term and concepts (Matšela & Mochaba 1986). Furthermore, borrowing as Kaschula and Anthonissen observe:

Of course if culture is reflected in reflected in language, we may expect to find that social change produces linguistic change. So in a community which is becoming increasingly multicultural we can expect to find traces of the news forms of interaction in the languages of different cultural groups. (Kaschula and Anthonissen, 1995:17)

Borrowing becomes quite common in a multilingual society such as South Africa because of the needs of cross cultural communication (Fourie, 1993). Furthermore; borrowing is a very productive term-formation method whereby a foreign term is incorporated into the target language, by an indigenization process, inevitably involving the phonology of the target language. Sepedi borrow from Afrikaans, English and other African languages, e.g.

Firefox:

- 'Sebara' in Sepedi is borrowed from 'server' in English.
- 'Dithepe' in Sepedi is borrowed from 'taps' in English.
- 'Thibela' in Sepedi is borrowed from 'block' in English
- Webe web in English.
- Aterese Address in English.
- Emeile e-mail in English.

The Sepedi language borrows mainly from English for this purpose which in turn borrowed from the classical language, i.e. Greek and Latin.

Open Office:

- 'Sokhete' in Sepedi is borrowed from 'socket' in English.
- 'Sekirini' in Sepedi is borrowed from 'Screen' in English.
- 'Difaele' in Sepedi is borrowed from file English.
- 'khomphutha' in Sepedi is borrowed from computer in English.
- 'Wepe' in Sepedi is borrowed from 'web' in English.

From the above-mentioned examples it thus becomes clear why scholars such as Hlongwane (1995) and Chiwome (1992) prefer the term 'adoption' to borrowing with the latter being used by Temu (1984) and Andrzejewski (1979). The term, 'adoption' is also used by Koopman (1994) while 'loan-borrowing' is used by Fellmann (1979). Professional terminology is usually adopted from English for the English-speaking African countries (Mochaba, 1987).

Terminologists should not only take care of the morphology and phonology of new terms but should also be aware of sociolinguistic development, and change in a language. Hlongwane (1995) makes a major contribution in this regard. He remarks

that the use of modern adoptive techniques in most African languages is a marker of the social class of its users. These (techniques) are used mainly by the educated and are therefore closer to the donor language (Afrikaans or mostly English) which is generally associated with advancement. The modern adoptive conform to the consonant vowel-pattern (ccv) which is 'lefasetere' > 'venster'.

Other examples with a similar syllabic system to the latter example are *seterata* (street, from Afrikaans 'straat') instead of *toropo* (town, from Afrikaans 'drop' (Hlongwane 1995:61). Some scholars like Cluver (1989) and Sager (1990) see new term 'coinage' as another separate method of term formation which occurs when new terms have to be coined for new inventions in technology. However in this chapter new term coinage is not discussed separately since it overlaps to an extent with borrowing, e.g. *i-meile* (e-mail) *khomphutha* (computer), *wepesaete* (website) and *inthanete* (internet) And to some extent with the other methods already discussed such as compounding, e.g. *selfoune* (cellular telephone). It is interesting to note that many new terms such as *wepesaete* (website) and *inthanete* (internet) are almost entirely taken over from English. Zungu calls such loans 'domesticated adoptive' (Zungu (1995:150). She remarks that they usually only attach one formative at the beginning of the word.

The use of borrowing as a method of term-formation can be advantageous pursued within an indigenous framework. However, unrealistic unproductive conservative purism can impede the standardization process in cases where adopted terms are already in use, especially in the advanced level of education where students are more inclined to use such loan terms (Chiwome, 1992). Even in ordinary language use certain purist terms are unacceptable, since they are hardly ever used in communication. Such unused purist standardized example in Sepedi are *Setšidifatši* (something that makes cold-fridge) and *switšhi* (something that switches on-switch) taken up in Sepedi Terminology and Orthography, No. 3(1976). As far as could be established ,Sepedi speakers frown upon the use of these words and wonder where they come from since they are accustomed to the generally used loan words 'setšidifatši' (fridge)and *switšhi* (switch) respectively.

In the final analysis of this chapter of the state of intellectualization of Sepedi with regard to the technological realm, that is, the selection of Firefox, Open office and MS word as tools in the Sepedi ICT terminology development has been broadly discussed. The various methods of terminology development have been high-lighted, that is, derivation, compounding loan-translation, paraphrasing, borrowing, deideophonisation, and abbreviation. In the discussion of the preceding methods within the Firefox and Open office the following problems were identified with regard to term-formation:

In Firefox, the term 'switšha' in Sepedi language is borrowed from the English language 'switch' (which means to break the connection in an electric circuit or transfer or changeover), while the word 'change or transfer' an English word means 'fetolela' in Sepedi viewed from an Open office software. Fetolela in this content has a neologism meaning whereas switch in English refers to a device for breaking an electric circuit.

The same thing applies to the English words 'probe' and browses which means 'fetleka' in Sepedi. In Firefox, the word 'theme' is referred to as 'hlogotaba' in Sepedi whereas in Open office and MS word the same word 'theme' is referred to as 'sehlogo', 'hlogo' or 'hlogotaba'. In literature the word 'theme' is referred to as 'moko' or 'kgwekgwe' in Sepedi. Some of the English words such as 'developers' are mistakenly written as 'batwetapele' instead of 'batšwetšapele'. It has now been clearly established what technical language is, and how it is developed through the various term-development methods. Therefore it should now be easier for the reader to comprehend how Sepedi ICT terminology is applied in translating English language into Sepedi in order for information concerning Sepedi to be published online.

CHAPTER 5

METHODS OF TERMINOLOGY DEVELOPMENT

5.1 TERMINOLOGY DEVELOPMENT

The sociolinguistic field of language planning, for the purpose of this study, can be divided into two aspects, viz: Status planning and corpus planning. Status planning deals mainly with decision taken by governments regarding language policy and its implementation and includes language development whereas corpus planning on the other hand, deals with language standardization and elaboration or modernization. Language elaboration refers to the creation of new terms in order to meet the scientific, educational and technical demands of a language.

The two main divisions of language planning referred to as status and corpus planning by Fishman (1977) stand in direct relation to each other according to Ohly (1987) in that a language with low status has underdeveloped terminology. Since this is particularly true for African languages in South Africa including Sepedi, the problem of underdevelopment need to be addressed by, for instance, following an approach of language cultivation which implies the development of language at all levels. Many scholars such as Neustuphy (1974) and Conzalez (1993) use the term language cultivation instead of language elaboration to refer to corpus planning. According to Conzalez (1993) the cultivation of a language refers to the cultivation of both its literature development and its science development. Cluver is clearly of the same opinion in this regard, stating:

Thus the language of a modern, industrialized speech community will not only reflect literally and cultural achievement but also its scientific and technical achievements. Cluver (1989:13)

The type of cultivation referred to the above will eventually lead to intellectualization, implying the use of a (national) language "...as medium of scholarly discourse" (Gonzalez, 1993:18). Gonzalez continues and observes that this

intellectualization of the national language as "...symbolic of the last conquest of development" (Gonzalez 1993:19).

5.2 Technical Language

Now that it has been established that technical language is popularly known as 'terminology' and the technical work as 'term' the following general properties of technical language insofar as it differs from ordinary language, can be seen in perspective.

Contrary to ordinary language, technical language shows a one to one correlation between the concept and the term. Preferably only one term should be used to denote a single concept and synonyms should be reduced (Cluver, 1989). This one to one correlation, however, cannot be followed in Sepedi since many synonyms terms are used interchangeably alongside one another:

thelebišene /thelevi

šene (television)

morutiši thitšhere (Teacher).

Technical language contains more nouns than the standard language (Cluver, 1989). It must be remembered however, that the terminology of the African languages is not larger than the vocabulary of the standard/ordinary language, as is the case with the more developed (European) languages, and as such would not necessarily contain more nouns. Cluver's naming of standard language in the latter two properties of technical language does not hold since technical terms can also be standardized and not only words in the ordinary language (Cluver, 1989).

It becomes clear from the above discussion that the properties of technical languages that form part of well developed European languages cannot necessarily be made applicable to the African languages, including Sepedi because of differences

at the structural, sociolinguistic and developed levels. The African languages have their own linguistic nature and cannot be compared to European languages on a one to one basis. This is evident in the following discussion on term-development in which some of the unique properties of Sepedi language elaboration are clarified through exemplification.

5.3 Towards standardization

At this point it has become necessary to motivate for a process that will promote standardization in the methods of term-development in language and technical elaboration in Sepedi. The African languages possess the basic tools that are necessary for their development (LANGTAG in DACST, 1996). These tools include an orthographical standard, dictionaries, and grammars and publish literature. However as outlined by Van Huyssteen (1999), these tools have some serious deficiencies. In the dictionaries a Eurocentric missionary approach is still evident; as far as vocabulary is concerned, it is to a large extent Western-orientated without reflection term-development patterns unique to African languages such as derivational patterns, rules for compounding or indigenization of loans. In grammar books and even in more advanced linguistic-analytical works such as Poulos and Msimang (1998) Doke (1984) term-development is not treated very systematically. Basically, following Doke's approach Poulos and Msimang (1998) treat term-development in Sepedi in an informative manner and with morphological, accuracy, but with the emphasis on nominal deriving mechanisms which unfortunately does not include all existing term-development methods. Even though compounding, adaptations (loans) and suffixal derivation (by means of feminine, diminutive and augmentative suffixes) are also treat under the same heading of derivation in this scholarly work, some other term-development methods such as semantic shift and loan translation are not discussed.

Basically work on term-development patterns, with the exception of Madiba's (2000) thesis on modernization in Venda, is largely lacking in the African languages; thus LANGTAG suggest:

To prevent African languages from losing their derivational transparency, a planned research programme needs to be introduced that will expose the underlying patterns of African term-development and borrowing. The research study should also include the analysis of African textual strategies. (DACST, 1996:82)

This research programme can be converted into language term-development manuals. Language developers need to know what term-development patterns are available to them. They must also have an idea of what the inherent stylistic mechanisms are that can be used to develop new registers such as one used in court or in journalism.

Alberts (1997) adds a practical perspective by mentioning the need of the terminologist to have principles of term-development patterns at his or her disposal:

Terminologist has to apply specific terminological principles when denoting concepts. He or she also has to apply certain linguistic principles. No terminologist can coin a term if he or she does not know the basic word or term-development principles of a language. The absence of the register of the source language to the target language in the African languages often makes translators to erroneously transfer. (LANGTAG in DACST, 1996:81)

The practical approach can be considered as an effort to generalize, even standardize, at least to some extent, the term-development pattern of Sepedi. In this manner terminologists and lexicographers can gain the necessary linguistic insight in term-development strategies be they morphological or syntactical, to eventually coin original terms in accordance with the natural linguistic elaboration mechanisms inherent in the culture of the language.

5.4 Developing a Coherent Model

Hangen's (1996) model is probably the best known and most widely used model. As a consequence many scholars such as Hudson (1980) base their models of

standardization on that of Hangen (1966) which comprises the following four concepts:

- Selection of a norm
- Codification of form
- Elaboration of function
- Acceptance by the community

In this section each will be briefly treated with regard to Sepedi.

5.4.1 Selection of a norm

Selecting a norm requires the selection of one out of a number of dialects/languages to become the standard. It could be adjusting an existing language variety or create a new variety that will become the new standard (Van Huyssteen, 2003). It refers to the process whereby a language variety must be chosen or varieties must be identified out of existing varieties to become the standard language. Calteaux (1996) observes that standard is defined in agreement with a language community, i.e. to a pedi speaking person standard Sepedi. In South Africa the standard forms of the African languages are based on regional dialects spoken in specific rural areas (Calteaux, 1996).

5.4.2 Codification of Form

This requires the establishment of orthography and describing the grammar and lexon of the chosen language. This stage is also known as graphization by scholars (Ansre, 1971). Nationhood ideally demands that there should be a linguistic code through which communication can be facilitated (Haugen, 1966).

Graphization further entails the process of reducing a language to writing (Cooper, 1989). In case of Sepedi (Northern Sotho), Pedi dialect was used in writing by the missionaries and the bible was translated into Sepedi. This was the first tribe in Sepedi area which came under the influence of missionaries (Lombard, Grobler and Serudu, 1976). Codification refers to the written form of standard language evidence by existence of published dictionaries, grammars, spellers and style manuals

(Cooper, 1989). There are electronic dictionaries which are used in African languages. The Sesotho sa Lebowa (Sepedi) Dictionary (SeDiPro) has been compiled within the framework of Fuzzy SF in the Sesotho sa Lebowa Dictionary Project, a bilingual dictionary between Sesotho sa Lebowa (Sepedi) and English. The dictionary has been made available on the internet and with approximately 25 000 items on the Sesotho sa Lebowa side and 28 000 in English search index as well as linguistic terminology list of over 300 items. It is currently the target freely available African language internet dictionary. It is also the first African language internet dictionary allowing for 50m low-level fuzzy searches and for which the entire interface can be set to an African language in addition to English (Schryver and Joffe, 2003).

5.4.3 Elaboration of Function

This stage entails the expansion of lexicon and the creation and development scientific, ICT and technical terms to meet the demands of complex communication (Van Huyssteen, 2003). Elaboration involves modernization of the language to reach the highest level of expression in all possible domains such as politics, law, medicine, technology, education, culture, etc. According to Hudson elaboration is linked to “all the functions associated with central government and with writing, e.g. in parliament and law courts, in bureaucratic, education and scientific documents of all kinds and various forms of literature” (Hudson, 1980:33). Garvin (1993) refers to this stage as the intellectualization phase, while Crystal refers to it as modernization (Crystal 1993). Elaboration deals with the evidence of language development, therefore Hangen’s elaboration and Crystal’s modernization are treated as coordinated processes in Sepedi (Van Huyssteen, 2003).

Elaboration implies that expansion on technical vocabulary must take place and that formula writing must be established so that the new standard can be used in education, law, government, etc. Sepedi still has a shortage of technological terms because it is used as a medium of instruction for scientific and technical subjects only for primary schools tuition. Sepedi is taught as a subject up to matric level. Mother tongue speakers are at present taught through the medium of Sepedi only at a minority of South African Universities. Modernization as preferred by Crystal

(1993) refers to the process whereby a language becomes an appropriate medium for modern topics and forms of discourse (Cooper, 1989).

Unlike Cooper, Garvin (1993) refer to this stage as intellectualization. As far as Sepedi is concerned, modernization is taking place at some universities. In this study the focus is on ICT, that is, the use of computers and internet of African languages, e.g. Sepedi. African languages are not yet widely used in the content of computing applications or on the internet. This situation arises from the underlying socio-linguistic, language policy and educational context (Osborn, 2006).

5.4.4 Acceptance

A logical outcome of elaboration is acceptance which means that the standardized variety must be accepted as the national language by inhabitants living in a specific area and be seen as a unifying drive. Crystal (1993) prefers to call this stage implementation. Galinki is of the opinion that team work in terminology standardization will contribute to acceptability:

The more people are involved in the preparation of standardized terminology the more an ideal of terminology standardization is reached: a terminology based on general acceptance. Galinki (1982:193)

Acquisition planning, according to Cooper (Cooper 1989), is another important additional stage of standardization that needs to be added to the acceptance stage. He distinguishes three goals, (Cooper, 1989:159):

- a) Acquisition of a foreign language
- b) Reacquisition of a language which was once a vernacular such as Irish and
- c) Language maintenance through acquisition by the future generation.

In the South African context of the African languages, Sepedi in particular, the latter goal is quite important. For the African languages to gain value and status, language maintenance through acquisition by the future generation is of the utmost importance. A point that has to be remembered by language planners and is clearly

stated by Cooper: “prevention of decline requires maintenance of acquisition” Cooper (1989:159).

5.5 Standardization

As in any other country, term development and standardization is facilitated by agents or institutions. These agents work on national and international level to make standardization possible. In most countries such as South Africa, official bodies serve as instruments of standardization. For national standardization technical committees of the national standard organizations take the responsibility. There are countries where such standardization bodies or activities hardly exist; of which Namibia is an example, especially with regard to the indigenous African languages.

The International Organization for Standardization (ISO) is an important body which has published guidelines for technical language elaboration. It established some standardization principles between the years 1963 – 1970. Another is the well-known standardization bodies are that of the Federal Republic of Germany, known as the DIN (Sager, 1990). This body takes great care in the preparation of concept systems, international harmonization and presentation of publications. Although the ISO has international status, a major shortcoming is that it is perceived as an Indo-European organization favouring the industrial countries (Sager, 1990). Some of its recommendations are being redrafted and have not kept up with modern developments in technology. Furthermore, international cooperation is hampered by the use of very few languages such as French, English and Russian in documentation. In addition the extent to which a country lends priority to language development can create further problems. Obviously no action can be taken if funds are not made available for terminology development.

Another international body for the standardization of terminology is the International Information Centre for Terminology (INFOTERM) which was established in 1971 and sponsored by UNESCO. This body uses the framework of the UNISIST technical programme in liaison with the ISO and is affiliated to the Austrian Standards Institute (ON). The International Network for Terminology (Term Net) is

terminology business network and an international cooperation forum for companies and institutions with the aim of developing a world market for terminological products, tools and services. It is accessible on the world-wide web and is valuable for universal information and knowledge management in terminology.

Nevertheless, the ISO principles as mentioned by Sager (1990) specifically deal with terminology development in languages and therefore merit mentioning in this research:

Principle 1

Standardization of objects should come before the standardization of terms. Terminographers should then reduce the number of designations.

Principle 2

Standardization of terminology is a socio-economic activity involving all interested parties, who should eventually reach consensus

Principle 3

The application of standardization of terminology is more important than the mere publication of terminology.

Principle 4

Standardization implies the choice of the appropriate term which is followed by fixation of this term in the form of a definition.

Principle 5

‘Standard’ must be re-examined and revised on a regular basis.

Principle 6

Verification is needed to establish whether the term conforms to specifications. A certain method has to be followed by the term creators or developers in order to apply verification to a set of terms.

Principle 7

It is important to legalize standards within the context of a sensitive understanding of economical convenience and language use for social, regional and subject groupings.

These principles offer a coherent framework that should inform any activities to promote standardization in terms of Sepedi in the technological realm.

5.6 National Standardization

In South Africa, terminology standardization is mainly taken care of by the National Language Service (NSL), previously known as the National Terminology Service (NTS). The National Language Bodies (NLBs), for instance, prepares term lists in all the official languages such as a term list of medical terms and contributes in this manner towards African language development. Overseeing all language activities and terminological standardization in this country, is PANSALB under the jurisdiction of the Department of Arts and Culture (DAC) (1996).

In the meantime, after the new dispensation in 1994 and the establishment of LANGTAG in 1996, significant language development structures were established. The Provincial Language Committees (PLCs) were established to monitor the usage and development of the languages being used in a specific province, e.g. in Limpopo the languages concerned are Sepedi, English and Afrikaans. The NLBs of each language (including Sign languages) have the function of standardizing the orthography and development of a specific language. In the year 2000 the National Lexicography Units (NLUs) for all 11 official languages were founded. Their task is to compile general dictionaries for all these languages and to document and preserve material in these languages. At present the Multi-term Website Access (MUWA) is

being developed as an interface being used to connect a multi-term database such as the National Term bank with the internet, in order to make data available online.

According to the LANGTAG Report (DACST, 1996) it had found on a fact-finding investigation that standard-setting bodies and their procedures need to be transformed. "PanSALB should seek agreement between the different language interest structures, be they official or voluntary as far as corpus planning, for instance dictionary projects, is concerned" (LANGTAG in DACST, 1996:57).

However, PanSALB has since its establishment in 1995 not fully succeeded in achieving coordination between the different language interest structures, such as the NLBs, the PLCs and the NLUs, specifically as far as the specific function of each structure is concerned. From national conference attendances and contact sessions concerning the language scenario in South Africa, it was alarming to come to the conclusion that there is much overlapping and little coordination between these structures. Hopefully the recently established Term Coordination Section (TCS) will coordinate the functions and management of these standard-setting structures, especially in the African languages where there is a lack of terminology, in order to ultimately develop and modernize these languages.

If one should try to systematize the elaboration and standardization processes in the African languages in South Africa, it would be quite difficult to give an explicit overview. This uncertain situation can partly be attributed to the fact that many changes have taken place since 1994 in the naming of functions of official language structures. For instance, the name of the National Terminology Services (NTS) changed to the National Language Services (NLS), the Department of Arts, Culture, Science and Technology (DACST) has now split into two departments, the Department of Arts and Culture (DAC) and the Department of Science and Technology (DST). The NLBs function on the national level for each African language, e.g. the Sepedi National Language Body (SNLB) whereas the PLCs function on the provincial level for each African language, while the previous language boards functioned on both these levels. Fortunately, however, Alberts (2003), a manager of

Lexicography and Terminology Development at PanSALB succeeds in a recent publication to capture a much needed overview of language development in South Africa, sketching the collaboration between PanSALB (of the DAC) and terminology structures.

This vagueness in corpus planning activities also has to do with a misconception in this country that government must develop languages and make funds available for such purposes, whereas what should actually happen is that communities should initiate the process and then ask for official assistance (LANGTAG in DACST, 1996).

5.7 Limitations of Standardization

Working intensively with terminology one cannot but come to the same conclusion as Sager (1990) that standardization has its limitations with regard to what extend and under what circumstances it can be achieved. Rubin agrees that there are no universal criteria for evaluating the success of standardization – “how many need to use it for it to be called standardization?” (Rubin 1997:165). However, Sager (1990) reasons that standardization can be successful on at least the levels of spelling, pronunciation, morphology and syntax.

However idealistic standardization may be many scholars agree that variation in language is a fact. Standardization is wrong, according to Chimhundu (1992), when it is considered to be a process where language is fitted into a mould with the purpose of uniformity in speech and writing. Cooper (1989) emphasizes that variation in language will always be there as is evident in the variety of dictionaries in the same language. Finally he rightfully reasons that it is impossible to freeze the forms of a living language, which transforms itself continuously even as it is itself transformed. Standardization is a continuing process and never finished (Mjogu, 1992). Therefore standardized items should be codified and regularly disseminated as widely as possible (Mjogu, 1992).

Problematic issues in the standardization of the African Languages, specifically Sepedi need to be considered. The following questions arise:

- Whose standard?
- Where are the sources of this standard?
- Is the evidence of this standard oral-aural based?
- Is it not the case that each individual is a sort of 'standard' or standard bearer given the oral-aural background of African communities?
- Has the work on standard done by the now disbanded language boards been looked at critically enough?

These questions highlight the often encountered problem in African languages, in that problems have mostly been listed without offering workable practical methodology to solve the problems.

As already highlighted above, language planning can be divided into corpus planning and status (policy) planning. This study deals with the development of Sepedi ICT terminology development and the technologization of the developed terms. The development of terminology in the African languages, including Sepedi, is to a lesser extent compiled by the African Language Boards but not Sepedi ICT terminology.

Although the African languages processes the basic tools that are necessary for their development such as orthography standards (set by the previous language committees/boards and the present Language Bodies/Councils), terminology lists, dictionaries, grammars and published literature, these tools have some serious deficiencies. There are serious inconsistencies in the application and interpretation of orthographical rules in general and in terminology.

Indigenous derivational patterns, rules for compounding or adoption of loans, also in relation to culture, are not clearly reflected in Sepedi grammars. Basically the standardization of term-development patterns is largely lacking in the African languages, including Sepedi. There is a lack of utilizing relevant written sources in a specific technical field for terminological work. There written sources should be

utilized to the fullest instead of solely relying on the intuition of terminologists and translators who were/are assigned the task of terminology development. There is a lack of utilizing relevant oral sources in a specific technical field in the practical domain for terminological work, by for instance, interviewing professional workers. There is a lack of verification to determine to what extent existing standard technical terms, in comparison with oral terms, are accepted and used by the Sepedi-speaking community in everyday communication.

In order to overcome the mentioned deficiencies that get in the way of effective technical standardization and elaboration, a proposed method should be followed, based on research and the latest trends in corpus planning and language development. The proposed method followed in this study is called a practical approach to the standardization and elaboration of Sepedi as technical language. This approach does not claim to be absolute, but could serve as a guideline for language planners and terminologists toward realistic technical elaboration and standardization in Sepedi.

CHAPTER 6

CONCLUSION: DEVELOPING A FRAMEWORK FOR SEPEDI

6.1 Towards a Framework

The Sepedi policies are generally characterized by avoidance, vagueness, arbitrariness and fluctuation, especially as far as implementation is concerned. There is a gap between the language policies adopted by government and its implementation. Language services lack an adequate infrastructure and language workers enjoy a very low status and compensation. Owing to colonial historical education policies in Africa, unilingualism (English) instead of multilingualism is favored in education. In Sepedi, as with other African languages, there is lack of trained language workers such as translators, teachers and interpreters.

Standard setting structures do not function or coordinate properly. The widespread use of English in trade and administration and the lack of language equity in the private, provincial and governmental sectors add to the continuing marginalization of Sepedi. There is inconsistency in the formulation, application and exemplification of orthographical (terminological) rules. Coupled to this is poor documentation and standardization of the methods for term development. Furthermore, questionable accuracy in morphological notation (basic forms) or terms that are listed exacerbates the dire situation for Sepedi in the technological realm. This is due, in no small part, to the rapid development of terminology. The terminologists are time and again blamed for not keeping abreast of current developments, they are not able to maintain an overview of the development and changes within the terminologies of certain subjects

It has also been found that ICT and Human Language Technologies (HLT) have immense potential for enabling economies to expand further, promote public welfare and promote stronger social cohesion and thus allow democracy to flourish. It is imperative to develop the indigenous languages because technological developments, inter alia, those related to multimedia and internet applications to

manage and disseminate knowledge need to be accessible to as wide an audience as possible.

If the necessary ICT developments do not take place the continent and its potentially productive languages will further become marginalized and will forfeit its role as a potential global role player. It has become evident that in order to develop a truly global information society with sound knowledge management and HLT at its core the international community needs to strive to accommodate smaller languages and countries in formulating “road maps” for the next decade. This particularly pertains to capacity building, networking and knowledge sharing.

It has been found that some institutions are contemplating the introduction of training courses in HLT, and it will be necessary in the interim for scholars in African linguistics to address inconsistencies in morphological notation which may be attributed to terminologists lacking sufficient knowledge or training. There is lack of standardization of the methods of word-information that facilitate language and technical elaboration in the Sepedi language. Initially such development focused on the establishment of an orthography, Christian terminology and basic school terminology. Furthermore, the indigenous term-development patterns in Sepedi by means of which technical elaboration is achieved, have thus far not properly documented or standardized. Also very little attention has thus far been given to extra-linguistic factors such as culture in relation to these term development patterns.

Any network of data banks and data bases and information system should comprise terminological files in order to allow the general user to make better use of them. The terminological banks have been found to be unreliable because of the incorrect or inappropriate terms which are stored in a bank. Such errors can spread quickly and consequently cause difficulties in understanding and communication. The fragmentation and diversity of language situations across South Africa is enormous and immediately suggest that no one solution will fit all cases.

Enormous gaps have been found everywhere between the formal education policies and regulations regarding language use, and the actual capacities and practices in public primary, secondary and tertiary level classrooms. This situation continues despite the fact that the 1953 UNESCO guidelines indicated that the mother tongue should be the medium of instruction at least for the first three or four years of schooling, with the European colonial language and a national language, if necessary, as subjects, has been adopted as official educational policy nearly everywhere.

In secondary schools and universities, courses taught in English language often in fact make extensive use of mother tongues in both lectures and subsequent in-class and out of class discussions. Explanations of the course material and discussions by teachers and among students are almost always in the mother tongue or with a heavy use of code switching. It was also noted that teachers sometimes insists on using some version of English when they themselves do not understand the content of the course materials but do not want to be questioned about it by their students.

At all levels of schooling, inadequate command of English encourages or necessitates the use of rote memorization of English language materials for year-end examinations. It has been found that there is a common insistence on maintaining English as the medium of instruction seemingly from a combination of parent's misguided understanding of effective pedagogy and ambitions for their children to have command of English as international or global languages to "assure" their children's gainful and prestigious employment.

The research has demonstrated that students are best taught their subject courses in their own mother tongue, if they are to come to a full understanding of the content and concepts of these subjects. English may be taught as a subject alongside the others, but the switch to those languages as media instruction should come as late as possible and only after the students have received the best possible training from specialized and highly proficient language teachers. Parents' misguided presumptions regarding these pedagogical issues must be addressed but this is a domain in which professional knowledge should take precedence.

6.2 Recommendations

The National Language Bodies (NLBs) should guide the standardization process in coordination with other terminology structures. This will assist Sepedi language terminologists who are assigned to develop terminology for use in schools to make use of the real languages as a point of departure.

Against the backdrop of the research conducted for this study and the review of the literature, the following recommendations are suggested by the researcher. While the list aims to cover a wide spread it is recognized that much debate is likely to be suggested by each and more research required to make them viable, however, as language planning practitioners it is imperative that such debates and research activities ensure. Some of these recommendations may be idealistic and suggest actions that may be unviable given present contexts and resources but they need to be tabled to assist in framing the challenges associated with intellectualization of African languages. It is therefore, recommended that the following be considered in terms of Sepedi:

- The use of Sepedi language is encouraged in ICT and beyond, ensuring the development of new ICT terminology grammar, dictionaries and other publications. This will avoid the lack of terminology in Sepedi ICT language which has serious implication in education and the technological field in general.
- The lack of Sepedi ICT terminology development can be attributed mainly to the lack of proper language and educational policy implementation, and also to the lack of coordination in the national language standardisation and elaboration processes. The policy makers in this regard must ameliorate the situation.
- The National Language Bodies must ensure 'equality' in all eleven official languages as referred to in the constitution (Act 108 of 1996, Section 29), also

discussed in a separate official document by the Department of Education and titled Language in Education Policy (LIEP), dated 1997.

- The previously disadvantaged languages such as Sepedi language and others must be given full recognition, that is, the issue of multilingual language policy should not be idealistic but be more practical and easy to implement. Multilingualism should be seen as a challenge where all official languages are equally developed and enjoy full official status (Kaschula and Anthonissen, 1995).
- Sepedi and other African languages must be used to a greater extent in schools, not only as language of instruction for at least the first four years but be given the status of both English and Afrikaans. Parents should stop striving for their children to be educated in English. The generation of knowledge, be it scientific and technological, should come through education in comprehensive conceptualised forms through the medium of the home language (Language in Education Implementation Plan (LIED) in DOE, 1997).
- The Sepedi politicians and other African parents and pupils should be encouraged to take more pride in their language. They should not allow previous colonial educational policies to discourage the teaching of their children in any of their African languages. The policy makers must increasingly encourage the parents to communicate with their children in their home languages. Many African languages speaking pupils struggle with English before even having mastered their own language.
- The policy makers should take into account the LIEP (DOE, 1997) which states that language development of the national languages can only be achieved through the integration of own language learning into all learning process, irrespective of the subject taught. To sum up, for Sepedi to elaborate to its capacity, a proper modern discourse dealing with technical topics needs to develop in this language. This modernisation should be initiated at the

primary educational level before it can be attained at the secondary, or even the tertiary level.

- There should be functional coordination between the different language interest structures, such as the National Language Bodies (NLBs), the Provincial Language Councils (PLCs) and the National Language Service (NLS). This coordination must be rectified by the national language authority, the Pan South African Language Board (PanSALB).
- The lack of terminology in Sepedi can be overcome only if standardisation and elaboration activities are properly coordinated through language planning via the mentioned official language agents and structures. Consultation and coordination in term development activities in Sepedi language should be promoted.
- The speakers of Sepedi should maintain and improve the status of their language in order to facilitate modernisation, standardisation and elaboration in the technical domain.
- The serious inconsistencies in the formulation and interpretation of orthographical rules in the Sepedi language in general and in terminology should be dealt with accordingly. There should be proper exemplification in the term development taking into consideration the word division, capitalisation and changing trends in the language and terminology, which are not reflected in the orthography, need to be ironed out.
- Indigenous term development methods such as derivation patterns, rules for compounding or adoption of loan must be clearly dealt with in grammars or more advanced analytical works to facilitate terminology in Sepedi. For instance, in an advanced linguistic analysis of Zulu by Poulos and Msimang (1998), term development is not treated very extensively. Thus LANGTAG (DACST, 1996) suggest that a planned research programme needs to be introduced that will expose the underlying patterns of term development in

the African languages to prevent these languages from losing their derivational transparency.

- Alberts (1997) basically concurs that term development principle for all African languages need to be established since knowledge of these principles is essential for the training of terminologists. However, what the terminologist also has to bear in mind is the way in which such elaboration methods are linked to Sepedi culture; an aspect which has also been largely overlooked.
- The chasm between the language policy adopted by government and its implementation should immediately be bridged to facilitate monitoring to ensure that constitutional promises are fulfilled (LANGTAG in DACST 1996:150) by applying language equality and multilingualism.
- There should be proper infrastructure for language development and language awareness structures should be created, that is, language workers (including teachers) should enjoy a higher status with corresponding higher compensation.
- More language practitioners such as translators, teachers and interpreters in Sepedi language should be trained. The methods of training should be improved and be more Afro centric. There should be adequate language services, infrastructure and higher status for all language practitioners.
- Language equity should be encouraged in the private and public service and at governmental and at provincial level because of the widespread use of English as trade and administrative language. The dignity of all languages in South Africa must be respected in all sectors of society. This specifically applies to the marginalised African languages such as Sepedi and Venda.

- Sepedi language practitioners need proper training in the field of language teaching, teachers' training and literacy programmes. Training methods should be regularly updated, be more Sepedi-centric and more needs based in order to provide a meaningful language service. Linguistic training should be combined with computational training, for instance. Such training efforts in the Sepedi language though, should be initiated and coordinated by language authorities and language interest structures in South Africa.
- Standard-setting structures such as the NLBs, the PLCs and the NLS, especially in the Sepedi language, where there is a lack of terminology, should coordinate their efforts in order to ultimately develop and modernise this language.
- The dignity of Sepedi language in South Africa must be respected in all sectors of society. Furthermore, the non-standard language varieties in the Sepedi language can no longer be ignored. Sepedi must be given high user status in society, beyond a symbolic official status. Symbolism can only be overcome with a concerted drive, from the government and the speakers of the Sepedi language themselves, to develop and promote their language.
- The serious deficiencies that get in the way of effective technical elaboration and standardisation need to be removed to ensure the development of the basic tools such as orthographical standards, terminology lists, dictionaries, grammar and publications. These deficiencies need to be approached from a practical perspective.
- Sepedi must be empowered, first and foremost, recognising and empowering the multiple identities of the speakers of this language, and breaking the unproductive dichotomies between language use and educational language, indigenous and European languages, and 'official' and 'vernacular' indigenous languages.

- Information Technology (IT) and HLT (Sepedi) must be encouraged because they both empowers, benefits and links people across cultures on a global level. “It also has immense potential for enabling economies to expand further, countries to enhance public welfare and promote stronger social cohesion and thus democracy to flourish. According to Roux (2010:2) Access to the digital opportunities must therefore be open to all. (G8 Communiqué, Okinawa, 2000).
- Offering Sepedi becomes critical concern since Sepedi itself is an important vehicle for the expression and generation of knowledge, but there is little organised educational activity beyond small-scale programs for adult basic literacy and a limited amount of first language instruction at the primary school level. ICT in Sepedi language could be important in post-literacy and in dissemination and generation of knowledge.
- Reliance almost exclusively on English must be discouraged for the transmission of information and new knowledge. Enguehard and Mbodj (2003) state it clearly that the reliance on English puts people who are not skilled in this language, and arguably the societies of which they are a part, at a disadvantage.
- It is recommended that a reliable data, data supply and maintenance must be pursued, that is, the quality of a terminological data, the one that does not cause difficulties in understanding and communication in the data bank must be developed.
- The maintenance of a data bank is of significance importance, that is, the new terminologies created must be sustainable. The data bank must be able to cope with the rapid development of science, technology, the economy and other aspects of professional and vocational life.

- Recommended that the existing orthographical terminological standardisation problems regarding Sepedi language be solved.
- The standardisation of the methods of term development that facilitate language and technical elaboration in Sepedi must be achieved by means of linguistic tools being indigenous term development methods. However, these term development methods still have to be properly documented and standardised, specifically by the NLBs.
- Recommended that all terminological data banks must be user friendly, that is, allow the general user who may be a layman, educated layman or specialists, to clarify terminological problems, which arise in the search for information.
- A reliable quality supply of data and its maintenance is recommended. The quality of terminological data banks depends totally on the reliability of its data because data banks have a strong impact on the unification of terminological usage. Another important issue relating to data banks is the data supply and the data selection for input. The flow of information must be regulated prior to the establishment of a data bank (standardization).
- The created Term Net should be given the necessary cooperation, i.e. in the collation and dissemination of Sepedi language vocabularies. Term Net should facilitate the task of terminological data banks acquiring reliable terminological data. The Term Net Programmes are also intended to facilitate the cooperation of subject specialist with the terminological data banks.
- Access to the digital opportunities must be opened to all language speakers in particular Sepedi language speakers because Information Technology (IT), including HLT empowers, benefits and links people across cultures on a global level.

- It is recommended that Africa be developed and connected, and that communication should extend both ways bridging the respective language barriers. From a technological point of view Africa has no option but to attempt to keep abreast with developments in this field.
- That ICT be further facilitated to support knowledge transfer at different levels, for instance, e-learning, e-health, e-governance, etc. Such development within South African context will also have an impact and tangible spin-offs for adjacent countries. This will contribute in a significant way to the envisaged “Africa Renaissance” so frequently referred to in political statements.
- It is recommended that South Africa as a developing country in ICT must become an active participant in the global field of HLT and KM to align its “road map” with that of the international community at large. As a late starter to the field, South Africa’s point of departure on this journey should be the creation of an appropriate infrastructure, and the implementation of capacity building strategies, whilst keeping close links with the international community.
- It is recommended that the South African Universities teach subjects such as Computational Linguistic or Natural language processing which to a very large extent forms the backbone of the developments of HLT and KM field.
- The South African languages infrastructures in ICT must immediately develop ties with international centres of expertise and should also be a priority for local scholars.
- A website is recommended in Sepedi language for the public dissemination of the new developed terms, relevant papers, projects, programmes, conferences, announcements of new publications, information on language issues, funding sources, etc. It is encouraged that the website be free-

standing or else linked to existing site such as that maintained by the Association of African Universities (AAU).

- That effort to increase the use of African languages in particular Sepedi language for intellectual purposes will have to be tailored to the very specific circumstances of South Africa.
- Carefully crafted programmes or campaigns that enable people to see the costs of continued fragmentation, the advantages of developing and using their own national languages, considerable patience, and long time-frames are recommended in this regard. These programmes should not be inflicted upon people; the process must be voluntary and include clear incentives.
- That some of the courses in the public sector, secondary schools and universities officially taught in the English language be taught in Sepedi as a mother tongue in both lectures and subsequent in-class discussions. Explanations of the course material and discussions by teachers and among students should be done in the mother tongue (Sepedi) but with limited use of code switching.
- Nowhere is the deeply political character of language issues clearer than in the domain of the media. Radio, television and print journalism all can-and sometimes do-play major roles in both expanding and validating the use of African languages for public education, language instruction, and intellectual and political discourse. It is therefore recommended that mother tongue media through independent news, investigative reporting, and radio and TV dramas, be made powerful means or source of political criticism and anti-elite/government mobilisations. For instance, the Sunday Times, 07 November 2010, which was in Zulu edition, the product of several years of investigation and planning by Avusa editor – in – chief, Mondli Makhaya, who is oversaw its launch.

- It is recommended that the universities, secondary schools and primary schools must enhance the status and intellectualisation of African languages, in particular Sepedi in the context of this research. Incentives must be introduced to encourage these teachers who are rarely prepared to intellectualise their languages. The Universities, scholars, writers, critics and sometimes politicians and statesman and women, that is high profile institutions and individuals, must validate to the wider public both current and potential capacity of African languages to deal with complex social, scientific, professional and humanistic issues.
- Working together with scholars, practitioners, translators and specialists in other academic disciplines and fields is highly recommended to become engaged in developing the common standards and procedures within and across languages for drawing on older terms, or borrowing or creating new terminologies. Linguists should play an important role to the construction of specialised African language registers and glossaries as well as specialised and general dictionaries for all levels of education.
- The use of the popular, both electronic and print, to demonstrate and make the case for the wider use of Sepedi language in cultural, political and economic discussions, as well as in educational contexts is recommended. Again, success stories in the use of Sepedi language would be particularly useful. Talk shows, news programmes, educational TV, opinion pieces and letters to the editor can be effective vehicles. Like-wise, newspaper and TV reporters must be invited to attend relevant portions of Sepedi language-oriented workshops and conferences.
- Increase links between African languages and literature Departments with counterpart linguistics Departments, and then wherever possible carefully, creatively link them with frequently multiple, corpus-based, language-oriented student clubs and similar organisations in the large community. The goals would be to provide mutual support and strengthen their individual

programmes, but also to encourage recognition of their common interest in the development and use of the multiple languages that characterise African societies.

- Relatively low cost incentives are recommended to be used effectively to encourage the intellectualisation of Sepedi. Universities should play an active role, support and encouragement for the publication of African languages, in particular Sepedi language academic journals. Perhaps increased subsidies for research conducted in African languages.
- A coordinated national language audit to provide better information than currently available, on actual language use; bi- and multilingual, code switching, degrees of literacy (reading and writing), urban/rural, gender and generational differences, spreading, declining or dying languages, contexts for use of local, national and colonial languages. Such efforts would require a combination of carefully constructed surveys, intensive interviews, and observation in a variety of settings (homes, offices, schools, market places, stores, sport facilities, etc). Audits of this sort would seek to illuminate current language dynamics and constraints and opportunities in education, the media and national policy for further developing the use of Sepedi language.
- Experimental pilot projects, both technical and pedagogic, in teaching Sepedi language at different levels of education and among different categories of learners (e.g. children, youths, adults, and mother-tongue and second-language students) are recommended.
- The development of high-quality, standardised, computerised teaching materials for Sepedi language that can then be used (and marketed to generate substantial income) is recommended in other countries in Africa and beyond.

- It is recommended that the government and the private sector must finance the intellectualization of African Languages. Each province should have a well qualified language practitioners, translators, and linguists in order to promote all African languages in various departments.
- The Department of Arts and Culture must work with various tertiary Institutions and universities to encourage students to do courses dealing with policy making, interpreters etc. Each and every department in this country should have language practitioners.

These recommendations are deliberately as exhaustive as possible, with the view to coherently establishing a solid foundation upon which to build a viable and effective framework for promotion and intellectualization of Sepedi.

6.3 Conclusion

It has become evident in this thesis that language planning and policy in South Africa is not effectively playing its significant role of ensuring equal acknowledgement and status of all official languages including indigenous languages. The failure of the language planning and policy has led to the slow pace of terminology development of indigenous languages in particular Sepedi language. The tendency of the Education Strategist of alienating indigenous elites from their roots and undermining their capacity to be effective agents of change to promote sustainable language development should be eliminated. Language is mainly about acculturation, to be learned to be cultured. The African language departments in South African higher education institutions must be revived and encouraged to intellectualize our indigenous languages. The business and other leaders in civil society should henceforth take a responsibility to keep the rich heritage alive, mobilizing talents and pride of its people by making this indigenous knowledge system accessible to its speakers, putting it online, developing the appropriate terminology and making it official in the real sense of the word official.

The overall impact of misguided language planning and policy on the language on instruction in our education system is leading to the undermining of African languages in general, and in ICT specifically, denying the indigenous people access and exposure to technological development. The education system should ensure that ICT is introduced to the pupils in the early schooling days in an appropriate terminology in indigenous language in particular Sepedi language for the purpose of this topic. This step will substantially improve the quality of language teaching, arousing the interest of both students and academics.

The education authorities should immediately start accelerating the technologization of the indigenous languages in particular Sepedi language which is the bone of contention in this context because language teaching without technology is incomplete in building a prosperous democracy. Mamphela Ramphele emphasizing the rich diversity of languages stated that:

Ubuntu (humanity to other) and Batho Pele (people first) as values of our society can only thrive if anchored to a firmer cultural heritage base to leverage South Africa's rich diversity of languages is key to our success. Mamphela Ramphele (Sunday Times, 8 March, 2009)

A multilingual policy in education can only be successful if it is supported by implementation in government, the economy and social services. The language implementation plan could have real benefits by allowing South Africans to experience life through their mother tongue. The development of appropriate ICT terminology in Sepedi can enable the speakers of Sepedi language to utilize technology with better comprehension because it has been proved that forty percent of the people in South Africa often do not understand what is being communicated in English. Sepedi language must be technologized (put online) with the development of the appropriate ICT terminology framework to make it marketable in order to reach the potential of serving as a tool by means of which its users can meet their material needs.

Cooper (1989) argues that language planning must be viewed as a marketing problem, the language planners developing the right product at the right price. The language planners must recognize the development Sepedi ICT terminology, identify how it can be utilized and design products which the Sepedi language speakers will find more attractive. Incentives have to be developed that will encourage the Sepedi language speakers to maintain and develop their language so that it can benefit economically.

In the study the completed questionnaire data was analysed in order to reach conclusions concerning the acceptability of the developed Sepedi ICT terminologies and the knowledge of the existence of Sepedi ICT terminologies. The findings pointed out certain shortcomings regarding Sepedi language policy, implementation and infrastructure, and it is hoped that if these findings can be rectified the Sepedi language speakers will like English speakers appreciate the utilization of technology in their language. For instance, it was found that Sepedi language policies are generally characterized by avoidance, vagueness, arbitrariness and fluctuation, especially as far as implementation is concerned. There is a gap between the language policies adopted by government and its implementation. Language services lack an adequate infrastructure and language practitioners enjoy a very low status and compensation.

The standard setting structures must function properly in order to co-ordinate the new developed ICT terminologies in Sepedi language. The widespread use of English in trade and administration at the private, provincial and government sectors must be minimized in order to share the stage with other official indigenous language. ICT and HLT must be offered an economic opportunity to expand further, enhance public welfare and promote stronger social cohesion and thus democracy flourishes. It is imperative to develop the indigenous languages, in particular Sepedi languages, because technological developments, inter-alia, those related to multimedia and internet applications to manage and disseminate knowledge. If the necessary ICT developments, that is, Sepedi ICT terminology development, intellectualization and

technologization of Sepedi language do take place the Sepedi speakers will no longer be further marginalized and forfeited their role as potential global role players.

Secondary School and university departments must encourage pupils and students to conduct research in Sepedi language using the available ICT Sepedi terminology and developing new terms which will be standardized in due course. The registration of students in these departments will multiply because even the disadvantaged students (those who cannot speak English well) will have the opportunity to voice their minds and share indigenous knowledge system online. Sepedi language, literature and linguistics departments at higher education institutions should be encouraged to identify students with strong language interests and skills, and encourage them to apply for MA programmes, for instance, the Rhodes African language programme where students research ICT terminology development and other intellectualization of African language challenges. Incentives should be used effectively, to encourage the intellectualization and technologization of Sepedi language by a high-quality, standardized computerized teaching materials. These pilot projects should involve different settings (formal classrooms, smaller learner circles) and a variety of different materials and teaching techniques.

The National language and terminology policies of SA must offer the indigenous marginalized language at higher institutions an opportunity develop their own ICT terminology which will enable indigenous speakers to access information online easily. The Pan South African Language Board (PanSALB) should take the responsibility for terminology development and standardization. The National terminology office must use incentives to encourage students to participate in terminology development. The state must take practical and positive measures to elevate the status and advance the use of all the South African Official languages. The language policy and planning of South Africa must promote the equitable ICT terminology to be developed in all languages.

The language policy of South Africa should promote the equitable use of all the official languages, accommodates their linguistic diversity and provides a regulatory

framework to facilitate the effective implementation of the constitutional obligations concerning multilingualism. The government through its national treasury should ensure that all government documents are made available in all official language aiming for enhanced communication between government and citizens. The South African Language Board (PanSALB) in its effort to promote multilingualism and development of the official South African languages must ensure that all these official languages are intellectualized and technologized. This will ensure that the information about these languages, in particular Sepedi language will be transferred in ICT frameworks. The people will be able to access the web in order to find more indigenous knowledge about their language. The Provincial Parliament committees (PLCs) must assist provinces with language policy formulation, and implementation, that is, standardization, terminology development and ICT development. Technical language will apply the transference and translation of certain language to another, for example, English to Sepedi in order for information about Sepedi language to be published and ICT put it online, having dictionary online, literature and media, research and terminology development.

If all African languages are to develop their status in the contemporary milieu it is imperative that all language planning policies, are complemented by coherent and effective language planning and implementation activities that are robustly built on development of language practitioners. Through these practitioners, at all levels of African societies, the rich heritage and knowledge systems embodied in African languages can be celebrated and enjoy the status they deserve. This will enrich African cultures further and promote the multi-cultural environment that is essential to the future stability and development of South Africa.

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