

Amaziko emfundo ephakamileyo eMzantsi Afrika anendima enkulu ekufuneka eyidlalile ekuphuhliseni iilwimi zesiNtu. Ngaphezu kokuba kufuneka zifundwe ngabo balwimi zabo zizezinye kwanabo banezi lwimi njengeelwimi zabo zeenkobe, okubaluleke nangakumbi kukuba ezi lwimi ziphuhliswe ukwenzela ukuba zisetyenziswe ukuba kufundwe ngazo – ukuxhasa imfundo efunyanwa ngesiNgesi. Ukufezekisa oku, iiProjekti zikaSANTED kwiminyaka emine edlulileyo zilinge ukusebenzisa iinkcazelo-magama (glossaries), kwizifundo ngezifundo, ukuncedisa ukuba abafundi baqonde oko zuke bekufunda ngesiNgesi. Le ncwadana ibonisa amaqhinga anokusetyenziswa ukwakha iinkcazelo-magama ngeelwimi zesiNtu, ukuphuhlisa ezi lwimi zesiNtu. IiProjekti zikaSANTED, kunye nabanye abahlohli nabaphandi kwezinye iiyunivesithi, banika izimvo zabo ngamaqhinga abawasebenzisileyo ukwenza oku.

Terminology Development for the Intellectualisation of African Languages

Uphuhliso-sigama ngenjongo yokuphuhlisa iilwimi zesiNtu ngokugqibeleleyo

Edited by Pamela Maseko



PRAESA Occasional Papers No. 38



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Terminology Development for the Intellectualisation of African Languages



Uphuhliso-sigama ngenjongo yokuphuhlisa iilwimi zesiNtu ngokugqibeleleyo

**Proceedings, in English and isiXhosa or isiZulu,
from the SANTED Terminology Development
Workshop held on 11–12 May 2009**



Edited by Pamella Maseko

PRAESA Occasional Papers No. 38



Workshop participants

Standing, left to right: Gugu Mazibuko, Ahmed Essop, Nolubabalo Tyam, Russell Kaschula, Emmanuel Mkusa, Pamella Maseko, Linda Nelani, Chris Diwu, Charlotte Engelbrecht, Msindisi Sam, Herman Batibo, Loli Makhubu, Rosemary Wildsmith-Cromarty, Bonakele Mhlongo, Lorenzo Dalvit, Bulelwa Nosilela, Jill Wolvaart, Athambile Masola, Mary Gordon.

Sitting: Gugu Mkhize, Thandeka Mapi, Pumlan Sibula, Dion Nkomo.

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- Prof Herman Batibo
- Prof Fred Hendricks, Dean of Humanities at Rhodes University
- Rhodes University SANTED Project.

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Preface

The multilingualism projects funded by the South Africa Norway Tertiary Education Development (SANTED) have, since 2005, piloted the use of indigenous African languages to support learning in higher education institutions (HEIs) – learning which is mediated mostly in English. One of the main projects over the years has been the development of bilingual glossaries in ‘intellectual’ domains such as Computer Science, Dental Assisting, Psychology, Nursing and Politics. As the SANTED funding came to a close in 2009, there was a need to get the various Projects together, to share experiences and learn from each other, and from other role players in the area of terminology development. This is how the Terminology Development Workshop was conceived.

This Occasional Paper is an edited version of a report on the Workshop on Terminology development and the Intellectualisation of African languages that took place on 11th and 12th May 2009. It includes extended abstracts submitted as part of the Workshop proceedings. SANTED Multilingualism Projects from Rhodes University, the Universities of Cape Town and KwaZulu-Natal, and Durban University of Technology, as well as other researchers and scholars with experience and interest in terminology development in African languages attended. The two-day event was organised and hosted by the Rhodes University SANTED Multilingualism Project, Grahamstown. The purpose of the workshop was to:

- share strategies, knowledge and outputs in the compilation of discipline-specific glossaries in isiZulu and isiXhosa, intended for either first- or second-language speakers;
- use knowledge and skills acquired during the workshop in terminology development work, using online support set up during the workshop; and
- translate into isiXhosa and isiZulu, and publish, abstracts submitted at the workshop as a way of increasing texts available in African languages in ‘high function’ domains.

Each day of the workshop had a main area of focus, and Prof Herman Batibo of the University of Botswana gave a presentation that guided debates and discussions for the day. The areas of focus were:

- Strategies for development of multilingual terminology across disciplines (Day 1), and
- Terminology standardisation, implementation and use (Day 2).

One of the many highlights of the workshop was a short practical terminology development session where delegates were required to translate some technical terms. The idea was to use the knowledge learnt during the previous sessions, as well as get a hands-on experience of the process of terminology development. Although there were only four terms that were supposed to be translated, at the end of the 1½ hours the group had not reached a consensus on the definitions of the terms given, nor their equivalents in either isiXhosa or isiZulu. The debates were around the appropriateness of the definition given (technical experts debated this extensively) and whether the equivalent term suggested in isiXhosa or isiZulu captured the essence of the meaning in the original language. The discussion kept going back to some of the points raised in Prof Batibo’s presentation, especially that the equivalent term suggested in terminology development should be a representation of the concept presented by the original term.

Institutional support for the two-day workshop was most encouraging. The Dean of Humanities, Prof Fred Hendricks, offered words of encouragement to delegates and urged them to do more work to develop African languages. He stated that a workshop like this should be welcomed as a part of using indigenous African languages in decolonising the mind. He gave a brief history of African languages in the South African context and emphasised that for African languages to develop ‘we need a fundamental change of attitude’ so that all can see the benefit of African languages, especially in education.

Mr Ahmed Essop, the Acting Director of the SANTED Multilingualism Programme was similarly supportive. In his closing comments he commended the workshop organisers for the success of the workshop. He particularly applauded the SANTED Multilingualism Projects for the groundbreaking work they are doing in promoting multilingualism in institutions of higher learning. He was concerned though that although the work was worthy, it was not widely distributed for wider consumption; it was not in the public domain. Mr Essop suggested that the Projects should position themselves strategically, especially considering the new political

dispensation, and seek a representation to the new Minister of Higher Education and Training. A structure, perhaps inclusive of other HEIs could canvass views of already existing bodies like HESA and jointly approach the Minister where they present to him a short report on what has been done in various institutions i.t.o. language development. Such presentation should link closely with the newly published report on Racism in Higher Education as it reports on aspects of racism and some inequities that could be addressed through language intervention in HEIs

Workshop resolutions

The Workshop was a useful vehicle to confirm that what the SANTED Multilingualism Projects were doing in the area of terminology development was appropriate and was a suitable means to contribute towards addressing the issues of access and success of previously disadvantaged students, and therefore of transformation in higher education in South Africa. Valuable lessons and processes were learnt by sharing with each other, and should continue beyond the workshop.

- The Rhodes University-SANTED Information Technology Team will make available online all the terms that were developed during the workshop. Terminology development should continue online, using the guidelines that were provided by Prof Batibo and others.
- The Workshop proceedings will be translated into isiXhosa and isiZulu, and negotiations are in place already with PRAESA for them to be published as part of their Occasional Papers series.
- The SANTED Multilingualism Projects in the three institutions (RU, University of KwaZulu-Natal, University of Cape Town) should form a structure where what they have been doing in terms of language in their institutions should be presented to the newly established Higher Education and Training Ministry. Such a presentation should link directly to the findings of the Report on Racism in Higher Education (2009).
- SANTED Multilingualism Projects should reposition themselves well in terms of their working relations with government agencies in the area of language, e.g. the National Language Bodies (NLBs), the Pan South African Language Board (PanSALB), the National Language Service (NLS), and the Language Research and Development Centres (LRDCs).

A year-and-a-half later, in November 2010, it is pleasing to note that progress has been recorded in respect of several of the above resolutions. This publication, with all papers translated into either isiXhosa or isiZulu, is in itself the beginning of the process of the intellectualisation of African languages. The booklet will surely be used as source material for teaching terminology development in isiXhosa and isiZulu at university level.

SANTED Multilingualism Projects have also continued to share their experiences with each other on various platforms. The partnerships established are crucial and beneficial for growth of scholarship in African languages. The Projects, particularly RU, also featured prominently in the Higher Education and Training Roundtable discussions on African languages in HEIs.

Inevitably, challenges remain, one of the main ones being for presenters to begin to originate and present their work in an indigenous language and then have it translated into English, rather than the other way around as is the case at present. Related to that is the need to find vehicles, e.g. publishers, to disseminate such work.

Isingeniso

Iiprojekti ezifumana inkxaso-mali kuSANTED, nezikhuthaza ukusetyenziswa kweelwimi ezininzi kwezemfundo zithe gqolo, ukususela ngo-2005, ukwenza amalinge okusebenzisa iilwimi zemveli ukuxhasa ukufunda kumaziko emfundo ephakamileyo – mfundo leyo iqhutywa, amaxa amaninzi, ngesiNgesi. Omnye wemisebenzi ephambili kule minyaka ibikukuphuhlisa inkcazelo-magama (*glossaries*) elwimi-mbini kwizifundo ‘eziphezulu’ ezinjengezi: ezeNzululwazi ngeKhompyutha, i*Dental Assisting*, i*Psychology*, i*Nursing* kunye nezePolitiki. Nanjengoko inkxaso-mali ka-SANTED ibisiya esiphelweni ngo-2009, kuye kwabonakala kuyimfuneko ukuba kuhlangukane zonke iiProjekti ezenza lo msebenzi ze kwabelwane ngamava, kufundwe omnye komnye, nakwabanye abenza umsebenzi wophuhliso-sigama eziyunivesithi. Yavela kanje ke le ntlanganiso yoCweyo.

Eli phepha yingxelo ehleliweyo yenkqubo yeNtlanganiso leyo yoCweyo malunga noPhuhliso-sigama nophuhliso ngokugqibeleleyo lweelwimi zesiNtu, ntlanganiso leyo yayibanjwe ngomhla we-11 nowe-12 kuMeyi ka-2009. Liquka izishwankathelo zamaphepha aye anikezelwa kule Ntlanganiso. IiProjekti zikaSANTED eYunivesithi iRhodes neYunivesithi yaseKapa neyaKwaZulu-Natal kunye neDurban Universty of Technology, kwakunye nezinye iingcaphephe ezinamava nomdla kuphuhliso-sigama kwiilwimi zesiNtu, zaye zazimasa le Ntlanganiso intsuku-mbini, neyayingathwe yiProjekti yeSANTED eseYunivesithi iRhodes. Iinjongo zale Ntlanganiso ibizezi:

- ukwabelana ngamaqhinga, ulwazi nezinto esenziwe kwinkcazelo-sigama kwezi zifundo ziphezulu zidweliswe ngentla nezijoliswe kubantu apho iilwimi zesiNtu zilulwimi lokuqala okanye lwesibini;
- ukusebenzisa ulwazi nobugcisa obufunyenwe kule Ntlanganiso kumsebenzi wophuhliso-sigama, kusetyenziswa inkxaso efumaneka ku-intanethi emiselwe ngeli xesha lale ntlanganiso;
- ukuguqulela kwisiXhosa okanye kwisiZulu, ze kupapashwe zonke izishwankathelo ezingeniswe kule Ntlanganiso, ngenjongo yokwandisa iincwadi ezifumanekayo ngeelwimi zesiNtu kwezi zifundo ‘ziphezulu’.

Imini nganye yale Ntlanganiso yayiye igqalisele kwindawo ethile, kwaye uNjingalwazi Herman Batibo waseYunivesithi yaseBotswana wayeye

anike intetho eyayiyi ibe sisikhokelo kwiingxoxo zemini leyo. Iindawo ekwakugqaliselwe kuzo zezi:

- Amaqhinga okuphuhlisa iinkcazelo-sigama ezilwimi-ninzi kwizifundo ngezifundo (Usuku 1);
- Ukubeka isigama emgangathweni, ukungeniswa nokusetyenziswa kwaso (Usuku 2).

Enye yezinto, phakathi kwezininzi, ethe yavelela ibe yiseshoni apho abo bebethatha inxaxheba kwaye kwafuneka baguqulele isigama sobugcisa. Injongo yayikukuba kusetyenziswe ulwazi olufumaneka kwiiseshoni zangaphambili, kwanokufumana amava kule nkqubo yophuhliso-sigama. Nangona kwakukho nje amagama amane ekwakulindleleke ukuba aguqulelwe, kodwa kwaphela iyure enesiqingatha iqela lingafumenanga sisombululo malunga nengcaciso yesigama eso, okanye malunga nenguqulelo yayo kwisiXhosa okanye kwisiZulu. Iingxoxo bezimalunga nokufaneleka kwengcaciso enikiweyo (iingcali ezinobugcisa kweso sifundo bezixoxa zixhaph’amagwebu), kwaye kuxoxwe nanzulu ngokufaneleka kwenguqulelo enikiweyo ngesiXhosa okanye ngesiZulu, ingakumbi ekubeni iyigqithisa ngokucacileyo kusini na intsingiselo equlethwe kulwimi lwentsusa. Iingxoxo zazimana zisiya kungqubeka kwamanye amanqaku ayevele kwintetho kaNjingalwazi Batibo, ingakumbi umba wokuba inguqulelo yegama eliphuhlisiweyo kufuneka imele ngqo loo nto iqulathwe ligama kulwimi lwentsusa. Eyona yayicaciswa yile ngxoxo kukuba uphuhliso-sigama ngeelwimi zesiNtu asiyondlwan’iyanetha.

Le ntlanganiso yafumana inkxaso kubaphathi beYunivesithi yaseRhodes. Intloko yeFakalathi yeziFundo zoLuntu, uNjingalwazi Fred Hendricks, waye wabakhuthaza abo bebethatha inxaxheba, ebabongoza kanjalo ukuba baqhubeke ukwenza umsebenzi wophuhliso lweelwimi zesiNtu. Waye watsho nokuba intlanganiso yocweyo efana naleyo kwakufanele ukuba ikhongozelwe njengenxenywe yokusebenzisa iilwimi zesiNtu ekususeni ingcinezelo kwingqondo yomntu. Uye wanika imbali emfutshane ngeelwimi zesiNtu kwimbali yoMzantsi Afrika, wabethelele into yokuba ukuze iilwimi zesiNtu ziphuhle ‘kufuneka abantu batshintshe indlela abazibona ngayo izinto’ ukwenzela ukuba bonke abantu bayibone inzuzo yeelwimi zesiNtu kwezemfundo.

UMnu Ahmed Essop, uMlawuli owayelibambela kwaSANTED, naye waye wayincoma le ntlanganiso. Xa wayethetha ekuzeni kokuphela kwayo waye wancoma abaququzeleli bayo ngempumelelo yayo, wazincoma kanan-

jalo neeProjekti zikaSANTED ngomsebenzi wazo ongumhlaha-ndlela ekukhuthazeni ukusetyenziswa kweelwimi ezininzi kumaziko emfundo ephakamileyo. Waye kodwa wabonisa inkxalabo, esithi nangona lo msebenzi ungoxabisekileyo kakhulu, awubonakali apho kufuneka ubonakale khona. UMnu Essop waye wacebisa ukuba iiProjekti kufuneka zizibeke kwindawo entle, ingakumbi kule meko intsha yezepolitiki, zizame ukufumana indlebe yoMphathiswa weSebe leMfundo yamaZiko eMfundo ePhakamileyo noQeqesho. Wacebisa kanjalo ukuba kudibane abantu abathile abasuka kuwo onke amaziko emfundo ephakamileyo, bahlangane nemibutho efana noHESA ze bacele ukudibana noMphathiswa apho banokuthi bamnike ingxelo emfutshane malunga noko kwenziwayo kumaziko ahlukileyo malunga nophuhliso lweelwimi. Loo ngxelo kufuneka ingqamane nengxelo yakutsha nje malunga noBuhlanga kumaziko emfundo ephakamileyo, nanjengoko ezinye zezinto ezivezwe kule ngxelo zisenokusonjululwa kusetyenziswa ulwimi.

Izigqibo zentlanganiso yocweyo

Le ntlanganiso ibiyindlela eluncedo ekuqinisekiseni ukufaneleka koko kwenziwa kwiiProjekti zakwaSANTED kummandla wophuhliso-sigama, kwaye nokuba oko kunegalelo ekujongisiseni imiba emalunga nokungena nokuphumelela kumaziko emfundo ephakamileyo kwabafundi ebebehlelelekileyo ngaphambili, nto leyo inokuthi ibange inguqu kwimfundo ephakamileyo eMzantsi Afrika. Iinkqubo esifunde ngazo ngokufuthelana kunye, nokufuthelana noNjingalwazi Batibo kwakunye noogxa bethu ebebevela kwamanye amaziko emfundo ephakamileyo, beziluncedo kakhulu kwaye kufuneka ziqhube nasemva kwale ntlanganiso. Ukufezekisa oku

- Iqela le-IT laseRU-SANTED liya kuthi lipapashe ku-intanethi sonke isigama esiphuhlise ngexesha lale ntlanganiso. Uphuhliso-sigama kufuneka luqhube ku-intanethi, kusetyenziswe izikhokelo ebezinikwe nguNjingalwazi Batibo nabanye.
- Iintetho ezinikwe kule Ntlanganiso ziya kuguqulelwa kwisiXhosa okanye kwisiZulu, kwaye sele kuqaliswe uthetha-thethwano no-PRAESA ukuba babambisane noRU-SANTED ekupapasheni ezi ntetho njengenxenywe yoluhlu lwamaphepha akhe ophando.
- IiProjekti zikaSANTED kuwo omathathu la maziko (RU, UKZN-DUT, UCT) kufuneka zidibane ukuze zinike ingxelo kwiSebe lezeMfundo ephakamileyo malunga nomsebenzi abawenzayo

kumaziko abo. Le ngxelo kufuneka iqhagamshelana ngqo neziphumo zophando oluqulathwe kwingxelo malunga nobuhlanga kumaziko emfundo ephakamileyo (2009).

- IiProjekti zikaSANTED kufuneka zizilungiselele ngobuchule ngokunxulumene nentsebenziswano namaziko nemibutho karhulumente, umz. iiNLB, uPanSALB, iNLS kwakunye neeLRDC.

Kunyaka onesiqingatha emva kwayo yonke le nto, kweyeNkanga ngo-2010, kuyakholisa ukuqaphela ukuba ikhona inkqubela-phambili eyenziweyo malunga nezi zigqibo zibalulwe apha ngentla. Le ncwadana, equlathe onke amaphepha aguqulelwe esiXhoseni okanye kwisiZulu, yona ngokwayo sisiqalelo senkqubo yophuhliso ngokugqibeleleyo lweelwimi zesiNtu. Le ncwadana, ngokuqinisekileyo, iya kusetyenziswa njengomthombo wolwazi ukufundisa isifundo sophuhliso-lwimi ngesiZulu nangesiXhosa kubafundi abakwinqanaba leyunivesithi. IiProjekti zikaSANTED futshi zisathe gqolo ukwabelana ngamava malunga nomsebenzi wazo – kumaqonga ngamaqonga kwaye uthelelwano olumiselweyo luluncedo ekukhuliseni uphando kwiilwimi zesiNtu. IiProjekti, ingakumbi iRU, ziye zabonakala kananjalo kwiingxoxo ebeziqalwe liSebe leMfundo ePhakamileyo ngo-2010 malunga nombaba weelwimi zesiNtu kumaziko emfundo ephakamileyo.

Ewe, isekhona yona imingeni. Omnye ophambili ngowokuba abantu abakulo msebenzi wophuhliso lweelwimi zesiNtu kufanele babhale ngezi lwimi, ze imibhalo yabo iguqulelwe esiNgesini, bangabhali ngesiNgesi ze kuguqulelwe esiXhoseni, njengokuba kunjalo kolu papasho. Umba wokufumana indlela yokupapasha ze kuhanjiswa le misebenzi unxulumene nalo ngentla.

1. Motivation, principles and strategies in terminology development: the Tanzanian experience

H.M. Batibo

1. Introduction

The promotion of the major African languages to assume more public functions and the emergency of a global communication society in the world have given rise to a number of developments. The most conspicuous developments include: the expanded domains of language use; the enhanced state of multilingualism; the interlingua phenomena (translation, code-switching, massive borrowing, etc.); and the creation and new usage of terms.

While lexicography deals with the collection, organisation and description of lexical items in a language, terminology development is concerned with the creation, recording and institutionalising of lexical items. The former is part of Norm Planning, while the latter is often part of Capacity Planning. Usually terminology planning is informed by the new domains of language use, level of adequacy of terms in a given domain, policy and decision making, the implementation strategies and the evaluation of capacity and extent of use

2. The motivation for the creation of new terms

There are mainly two types of motivation for the creation of new terms, namely contextual and non-contextual. The contextual type includes situations such as the need for specific terms in the course of translating a

passage, in one's professional field (e.g. social work, agriculture, nursing, etc.); when conducting a lecture or giving a speech, in curriculum development and evaluation (preparation of teaching materials), during interaction with the public (e.g. court of law, church) or during academic and professional reflections. The out of context motivation involves the search for equivalents from another language, such as the translation of dictionaries or glossaries. Since terminology development is an on-going activity, a data-base is necessary for inputting new information. For example, the Department of African Languages and Literature at University of Botswana has been engaged in the preparation of terms in linguistics and literature for now over fifteen years. New or alternative terms emerge all the time.

3. The principles of terminology development (the Tanzanian experience)

The principles to be followed in term development include the following procedures:

- a. Terms must be concept based rather than word based. This is because a word may have many meanings. For example the word 'flight' has six polysems, or meanings, in English, all of which have different terms in Kiswahili.
- b. As far as possible, the source language or variety from which new terms are selected or adapted should start with internal sources (from the language itself or its dialects) before going to external sources. Even in this case, the closely related languages should be given priority, that is if one is looking for new term for IsiXhosa, after exhausting internal sources from the language itself and its dialects, the next step would be to look for the term from closely related languages like IsiZulu, IsiNdebele and Siswati. One will then move to other Bantu languages, African languages in general and then foreign languages. This procedure must be followed in order to reduce the degree of language alienation. Unfortunately this rule is difficult to follow for lack of information of some of the sources..

4. The criteria for selecting terms (where there are alternatives)

Where there are alternatives, priority in the selection of terms should be given to:

- a. terms already in use by majority (the descriptive approach);

- b. Terms which are easy to remember (few syllables/transparent);
- c. Where the meaning is relevant or close to the intended concept (in the case of semantic expansion);
- d. Where there is absence of socio-psychological inhibitions (e.g. historical legacies);
- e. One which corresponds to the educational levels of the users (e.g. internal sources for the lower domains and foreign sources for the upper domains);
- f. Where the relevant phonemic rules have been used to capture canonical word structure; i.e. consonant deletion in clusters, vowel insertion, vowel harmony (in Sotho languages, e.g ‘ball’ > *bolo*); vowel gravity (Kiswahili, e.g. ‘ball’ > *boli*), etc.
- g. Where the relevant methods of adaptation and adaptation have been used. Some languages like Setswana use the orthographic method while languages like Kiswahili use the oral method. The latter tends to create longer terms. e.g. ‘beer’ > *bia* and ‘meter’ > *mita* (Kiswahili); ‘beer’ > *biri*, ‘meter’ > *mitara* (Setswana); ‘tractor’ > *tereketere* (later shortened to *terekere*, Setswana).

5. The strategies for term development

The strategies for term development that are most common include the procedures for selecting term developers, the modalities of work and the custody of information. The most common techniques include: Derivation/Affixation, Semantic expansion, Compounding, Blending, Acronyms, Coinage, Loan translation and Borrowing. The various processes involved in term development have made it possible for Kiswahili to arrive at different alternative forms from which to choose the terms desired. The most popular techniques are borrowing, derivation, semantic expansion and compounding. Although borrowing, as an external strategy, is not supposed to be given priority, Kiswahili has extensively used this strategy. It accounts for nearly 1/3 of the new terms in Kiswahili. This is mainly because most users of the new terms, especially in the higher domains are already users of these terms in English.

6. Conclusion

Term development is an on-going activity. It needs patience, resilience, collaboration, creativity and the understanding of word formation in a given language. It is also an operation which needs time and the cooperation of both the producers and consumers of the terms which are being developed.

The various processes involved in term development have made it possible for Kiswahili to arrive at different alternative forms, from which to choose the terms desired. The National Kiswahili Council (BAKITA) has approved well over 27,000 terms, mainly in the areas of education, science and technology.

Discussion after Prof Batibo's presentation centred around inappropriate use of borrowed terms, especially in the context of language learning and teaching. Prof Batibo responded that while borrowing is an effective tool to promote language growth, it should be used with caution in that borrowed words must conform to the language structure rules, must be accepted by the users, and their conceptual meaning understood.

1. Ukugqugquzela, imithetho namaqhinga okwakha amatemu: Isibonelo ngeTanzania

H.M. Batibo

1. Isingeniso

Ukukhuthazwa kokusetshenziswa kwezilimi ezingomakhonya zase-Afrika ekuxhumaneni nomphakathi kanye nokuqubuka kwezindlela zokuxhumana umhlaba wonke, kufike nezinto eziningi ezintsha. Okuyizona zinto ezintsha ezigqame kakhulu ngokusetshenziswa kolimi emikhakheni eyahlukene, ngukukhuphuka kwezininga lobulimilimi, ngokusetshenziswa kwezilimi kanyekanye (ukuhumusha imibhalo, ukusebenzisa izilimi ezahlukene enkulumeni eyodwa, ukusebenzisa kakhulu amagama okwebolekwa, njll.), ukuqamba amatemu amasha kanye nokusebenzisa amatemu ngokwezincazelo ezintsha.

Ulwazi lokwenza izichazamazwi, i-*lexicography*, luqondene nokuqoqa, ukuhlela nokuchaza amagama asesichazamazwini, kanti ukwakha amatemu, i-terminology development, kona kubhekene nokuqamba, ukubhala phansi kanye nokwenza ukuthi lawa matemu asebenziseke ngendlela evunyelwe. Ukwenziwa kwezichazamazwi kungesinye sezinyathelo zokulawula ukusetshenziswa kolimi. Ulwazimatemu lona luyisinyathelo esithile emsebenzini wokuhlinzeka ngezinsiza zokusebenzisa ulimi. Ngokuvamile, ukwakhiwa kwamatemu amasha kuba ngumphumela wokucela kwemikhakha emisha edinga ulimi lwakhona. Enye imbangela kuba ukusweleka kwamatemu emkhakheni othile, kanti futhi kungaba ngenxa yenqubomgomo, ukuthathwa kwezinqumo ezithile, amaqhinga okwenza umsebenzi nokuhlola izidingo, kanye nezinga lokusetshenziswa kolimi.

2. Izinto ezigqugquzela ukwakhiwa kwamatemu amasha

Zimbili izinto ezibalulekile ezigqugquzela ukuthi kwakhiwe amatemu amasha. Kukhona izidingo eziqondene nesimo eisithize kanye nalezo ezingaqondene nasimo. Phakathi kwezigqugquzeli ezivezwa yisimo esithize singabala izinto ezifana nokudingeka kwamatemu athize ashaya emhlohleni lapho umuntu ehumusha isigatshana esibhaliwe, lapho kufundiswa khona izifundo ezithize eziqondene nemisebenzi efundelwayo (isib. ezenhlalakahle, ezolimo, ezobuhlangikazi, njll), lapho kwethulwa izifundo noma izinkulumbo, lapho kwakhiwa khona ikharikhulamu noma kuhlolwa abafundi (ukulungiselela izinsiza zokufundisa), nalapho kukhulunyiswana namalungu omphakathi (isib. enkantolo, esontweni) nalapho kubekwa imiqondo ngezemfundomsebenzi. Izigqugquzeli ezingabhekisiwe esimeni esithize ziba: ukufuna amatemu ayizihumusho kolunye ulimi, njengokuhunyushwa kwezichazamazwi noma amaglozari. Njengoba-ke ukwakhiwa nokwandiswa kwamatemu kungumsebenzi olokhu uqhubekile, kunesidingo sokuthi lolu lwazi oluqoqwayo lugcineke ngohlelo lwakhona. Ukwenza nje isibonelo; uMnyango weZilimi zase-Afrika eNyuvesi yaseBotswana sekuphele iminyaka eyishumi nanhlanu manje ubhekene nomsebenzi wokulungisa amatemu emikhakheni yesifundo sezilimi, i-linguistics, nowezincwadi zezindaba, i-literature.

Sonke isikhathi kuba namatemu amasha avelayo noma amqondo ofanayo.

3. Imithetho yokuqanjwa kwamatemu (Isifundo nge-Tanzania)

Imithetho okumele ilandelwe ekuqambeni amatemu iqukethe la maphuzu alandelayo:

- Amatemu akhiwayo mawasuselwe phezu komqondo noma incazelo, hhayi phezu kwegama. Isizathu salokhu ukuthi igama lilinye lingaba nezincazelo eziningi. Isibonelo: igama elithi 'flight' linezincazelo eziyisithupha esiNgisini kanti zona lezo zincazelo zinamagama noma amatemu ahlukene olimini lweKiswahili.
- Kufuneka kuzanywe ngamandla onke ukuthi ulimi olufuna itemu noma igama luqale ngokubheka ekhaya (kulona uqobo kanye nasezilimini ezisondele kakhulu kulo) ngaphambi kokuthi luyofuna ezilimini ezikude. Isibonelo: Uma ufuna itemu elisha lesiXhosa, uqala ngokufuna

esiXhoseni. Uma ungatholi lutho kusona isiXhosa nezigodi zaso zonke, okulandelayo ukuthi ufune ezilimini ezisondele kakhulu esiXhoseni njengesiZulu, isiNdebele neSiswati. Ukudlula lapho kungayiwa kwezinye izilimi zaBantu zonke bese kugcinwa ezilimini zaphesheya. Le ndlela kufanele ilandelwe ukuze kuncishiswe igebe elakhekayo phakathi kwezilimi. Ngebhadi-ke lo mthetho akulula ukuwulandela ngenxa yokungabi khona kolwazi olwanele phakathi kwezinye zezinsiza.

4. Indlela elandelwayo ukukhetha amatemu (lapho kunamagama okungakhetheka kuwo)

Lapho kunamatemu okungakhethwa phakathi kwawo, kufanele kuqalwe:

- ngamagama asevele esetshenziswa yiningi (indlela echazayo);
- ngamagama akhumbuleka kalula (anezinhlamvu ezimbalwa, asobala);
- lapho incazelo ihambisana noma isondele kangcono emqondweni okubhekiswe kuwo (uma incazelo ejwayelekile isetshenziswe ngendlela engajwayelekile kodwa ehlobene naleyo ejwayelekile);
- lapho kungekho zinto ezivimba ukusetshenziswa kwegama ngezizathu ezithize. Kungaba yizizathu ezithinta isimo okuphilwa kuso emphakathini lowo noma yindlela umphakathi ocabanga ngayo mayelana nalelogama (isib. Izinto ezingamafa awumlando);
- itemu elihambisana nezinga lemfundo yabasebenzisi balo (isib: ukwenza umfanekiso ngezinto ezingaphakathi ezweni emazingeni aphantsi kanye nezisemazweni apheresheya emazingeni aphezulu);
- lapho kusetshenziswe khona imithetho yokuphimsa kwemisindo yalolo lulimi ukubumba itemu elihambisana nalo uma kusetshenzwa ngamagama aphuma kwezinye izilimi. Isibonelo: ukweqiwa konkamisa, ukulumbanisa ongwaga, ukufakwa konkamisa, ukulumbana konkamisa (izilimi zesiSuthu isib. 'ball' > bolo); ukwehlisa unkamisa (Kiswahili, isib. 'ball' > boli), njll.;
- lapho kusetshenziswe izindlela ezifanele zokuguqulwa kwesimo segama. Ezinye izilimi, njengeSetswana, zisebenzisa ubhalomagama kanti izilimi ezifana neKiswahili zona zisebenzisa ukujikajika izwi. Indlela yesibili yona ivama ukwakha amatemu amajana isib. 'beer' > bia; meter > mita ngeKiswahili., NgeSetswana kuthiwa : 'beer' > biri, 'meter' > mitara, 'tractor' > tereketere (elabuye lafinyezwa kwathiwa terekere).

5. Amaqhinga okuthuthukisa ulwazimatemu

Phakathi kwamaqhinga okuqamba amatemu yilawa avamile: izindlela ezisetshenziswayo ukukhetha abaqambi bamatemu, indlela yokusebenza kanye nokugcinwa kolwazi. Izindlela ezijwayelekile zibandakanya ukususelwa kwegama kolunye ulimi lusetshenziswe ngendlela yolimi olusha, ukuphongoza nokujobelela, ukunwetshwa kwencazelo noma umqondo, ukwenza imixhantela, ukulumbanisa, ukusebenzisa izifinyezo ezingama-akhronimu, ukubumba amatemu amasha nokuboleka amagama. Izindlela ezahlukene ezisetshenziswa ekwakheni amatemu ziyizizile iKiswahili ukuthi ibe nemithombo eminingi abakwazi ukukhetha kuyo amatemu abawafisayo. Izindlela ezidumile ukuboleka, ukuguqula isimo segama, ukunweba incazelo kanye nokuxhantelisa. Yize ukuboleka kuyinto eqhamuka ngaphandle kolimi engafanele kuqalwe ngayo ekwakheni itemu, iKiswahili iyisebenzise mawala le ndlela. Inani lamatemu amasha kulolu limi libalelwa engxenyeni eyodwa kwezintathu. Into ebanga lokhu wukuthi abantu abaningi abasebenzisa lawa matemu amasha, ikakhulukazi emazingeni aphezulu empilo, ngabantu asebevele bejwayele ukuwasebenzisa ngesiNngisi.

6. Isiphetho

Ukwakhiwa kwamatemu ngumsebenzi oqhubeka njalo. Kudinga isineke, ukuphikelela, ukusebenzisana, ikhono lokuqamba kanye nokuqonda ukubumbeka kwamagama olimini okusetshenzwa ngalo. Kungumsebenzi futhi odinga isikhathi nokusebenzisana phakathi kwabakhiqizi nabasebenzisi bamatemu akhiwayo.

Imigudu eyahlukene esetshenziswayo ukwakha amatemu isizile ukuthi iKiswahili ifinyelele emithonjeni eminingi eyahlukene abakwazi ukukhetha kuyo amatemu abawafisayo. I-National Kiswahili Council (BAKITA) isiyamukele amatemu evile ezinkulungwaneni ezingama-27 kanti , iningi lawo lisemikhakheni yemfundo, yenzululwazi neyobuchwepheshe.

Ingxoxo emva kwephepha likaNjingalwazi Batibo igxile ikakhulu eku-setshenzisweni kakuhle kwamagama abolekiweyo, ingakumbi xa kufundwa okanye kufundiswa iilwimi. UNjingalwazi lo uphendule wathi nangona ukubolekwa kwesigama kwezinye iilwimi iliqhinga elisebenzayo ukukhulisa iilwimi, oku kufuneka kwenziwe ngobulumko nanjengoko esi sigama sibolekiweyo kufuneka sibambelane nemigaqo yentetho, samkelwe ngabo basisebenzisayo futhi iqondakale gca intsingiselo equlathwe siso.

2. Challenges of term standardisation, dissemination and acceptance

H.M. Batibo

1. Standardisation

Standardisation is the process of deliberate choice and promotion of one variety of a language to become the Standard variety. The idea is meant to ensure that one variety is used in the school curriculum, in publishing, in the media, in teaching the language to foreigners and in official settings. By extension, standardisation is also the selection and promotion of all forms that have been approved as forms to be used in the standard variety. Hence all new terms in the language have to be approved so as to be used as standard forms. The process of standardisation is only possible where there is a recognised body that has been mandated the authority over the promotion and development of the language. This could be a Council, an Academy, or a Language Board.

In Tanzania, the national standardisation body is known as the National Kiswahili Council or *Baraza la Kiswahili la Taifa* (BAKITA). The existence of the National Kiswahili Council has facilitated tremendous the task of standardising the terms, that is making them part of the Standard Kiswahili inventory. This is because BAKITA is seen as representing the large public. BAKITA, in fact, has sub-committees which make extensive consultation with the public, particularly the intended users of specific terms.

2. The dissemination of terms

Once the terms have been standardised, they have to be disseminated to the users. It is the duty of the approving body and the relevant departments to ensure that the terms reach the intended users. All means of dissemination must be used. These would include the preparation of glossaries in booklets and brochures; the regular publication of new terms in the local newspapers; the placing of lists of new terms in the relevant offices; the conducting of seminars of new terms to relevant users; especially in institutions; the discussion of new terms in the local radios and television; the encouragement given to writers to use new terms, while explaining their meanings; the regular sales of booklets containing glossaries; and the placing of new terms on the BAKITA website.

By 1992, over 20,000 new terms had been created and approved. The number has now grown to over 27,000. There is still more to be done in order to bring communicative efficiency and precision in the various fields of use. However the massive influx of terms has given the impression that Kiswahili is being alienated or that a new Kiswahili is being created. This outcry has been minimised because BAKITA is broad-based representing most Kiswahili speaking communities.

3. The acceptance of terms

The acceptance and active use of terms by the users have depended on many factors, many of which are psychological and social. The following are among the typical factors:

a. Approving authority

Acceptance can be reached in two ways, either by the official imprimatur of the agreed terms by a recognised authority or by the unconditional use of the terms by the public. The former needs an official body designated by the government which is fairly representative. In Tanzania, we have the National Language Council (*Baraza la Kiswahili la Taifa*) BAKITA) with representatives from the regions, languages institutions and renounced Kiswahili promoters.

b. Habits of users

Out of habit, education, or cultural background, people often prefer terms to which they are used or which are associated with their experiences. In

Tanzania, Christians would prefer the term *filosofia* to the new Arabic originated term *falsafa* (philosophy) the Zanzibar inhabitants would prefer the term *skuli* to *shule* (school). These are then taken as synonyms.

c. Presence or absence of transparency

Terms tend to be more acceptable when they are transparent than when they are not. That explains why blending is not a popular mechanism of term development because blended tend to be blurred.

d. Elaboration of semantic use

The accessibility of a term to its users may depend on how well the meaning has been understood. Most users would hesitate to use a new term in a context for fear that they may misuse it or distort the intended meaning.

e. Presence or absence of other terms

Where the speakers were used to other terms, however, inappropriate, it is difficult to abandon them and shift to the new ones, as shown by Ohly (1978) in one Textile Mill located in Dar es Salaam, where the workers continued to use their own terms and ignored the standardised ones.

f. The word etymology

The etymology of a word may be a hindrance if it has an unpleasant origin, e.g. Kiswahili *u-staarabu* for 'civilization'. Etymologically it means state of being 'half-Arab'. Or the term 'swine flu' which has caused some people to abandon pork for fear of catching the disease, when actually the disease has nothing to do with pigs.

g. Expected congruency in science terms

Most scientific terms are classified according to their generic affinities. Scientists prefer that certain markers be used to show this generic affiliation. However, scientists have not been excited where the terms have been diverse in their form.

h. Memorisation and reproduction

Experience has shown that shorter words comprising not more than three syllables and containing no clusters have been memorised much more easily and even made part of the active vocabulary than longer words (Temu,

1982). This becomes a disadvantage for compound words like *thamanikikal-ori* (calorie value) or *kitambaagundamizo* (bonded fabric)

4. Conclusion

Term development activities require time, patience and collaboration. Ideally, they should be carried out in a research institute by regular language researchers who can travel to different areas to collect the terms which are already in existence.

Most terms are accepted by the users. The degree to which they are actually used in the users' professional life will normally depend on individuals and the type of profession. The type of consumers of the new terms have often influenced or determined the way the new term will be created, e.g. loanwords in the higher domains and internal sources in the lower domains.

Discussion ensuing from Prof Batibo's presentation focused on the need to harness the skills and capacity already in place so as to facilitate the development and dissemination of new terminologies, especially in education. SANTED office was suggested as a possible body that could co-ordinate this effort. However, Essop pointed out that the role of the SANTED office is more of providing administrative support, and to promote multilingualism and access. He stated that the proposed project, which focuses solely on promotion of multilingualism, is necessary but should be formed by, and co-ordinated by the various SANTED Multilingualism Projects, together with other Universities. Essop also suggested that SANTED should position itself strategically in the new political dispensation so that the work it is doing is noted, and has an impact on a wider scale.

2. Izinselele ngokuhlelenjwa, ukuphakwa nokwamukelwa kwamatemu

H.M. Batibo

1. Ukuhlelenjwa kolimi

Ukuhlelemba ulimi wuhlelo olulandelwayo ukuthi kukhethwe futhi kukhuthazwe uhlobo oluthize lolimi ukuthi kube yilo olusemthethweni. Lokhu kwenzelwa ukuthi kube nohlobo olulodwa lolimi olusetshenziswa ezikoleni, ekushicileleni izincwadi, ekucosheleni izindaba, ekufundiseni ulimi kubantu abangalwazi kanye nasekuxhumaneni nohulumeni. ezindaweni zomsebenzi Ngamanye amazwi ukuhlelemba kuchaza ukukhetha nokuphakamisa lezo zinhlobo esezamukelwe ukuthi zisetshenziswa njengolimi jikelele. Ngenxa yalokho-ke wonke amatemu amasha olimini kufanele amukelwe ukuze asetshenziswe njengamatemu asemthethweni kumuntu wonke. Uhlelo lokuhlelemba ulimi lwenzeka kahle uma kunehlango enegunya lokukhuthaza nokuthuthukisa ulimi lolu. Le nhlangano kungaba yisigungu, i-akhademi noma yiBhodi yoLimi.

ETanzania inhlango kazwelonke yokuhlelemba ulimi ibizwa ngokuthi yi-National Kiswahili Council noma iBaraza la Kiswahili la Taifa. (BAKITA). I-National Kiswahili Council iyona exhumanise umsebenzi wokuhlelenjwa kwamatemu, okwenza ukuthi angene njengamagama olimi lweKiswahili. Lokhu kungenxa yokuthi i-BAKITA yaziwa njengehlango emele umphakathi onabantu abaningi. Empeleni i-BAKITA inamakomijana ngamakomijana axoxisana nemiphakathi ikakhulukazi leyo ezoba ngabasebenzisi bamatemu athize.

2. Ukuphakwa kwamatemu

Uma amatemu eshlelenjiwe kumele aphakelwe abasebenzisi bawo. Kungumsebenzi wenhlangano eyamukela amatemu kanye nemiNyango kahlulumeni ethintekayo ukuqinisekisa ukuthi amatemu ayafika kulabo abhekiswe kubona. Zonke izindlela zokuphaka amatemu kufanele zisetshenziswe. Ezinye zazo yilezi: ukuhlelelwa kwamaglozari ezincwajaneni noma kumabhrosha, ukushicilela ngezikhathi ezithize amatemu amasha emaphandabeni endawo, ukubekwa kwezinhla zamatemu amasha emahhovi-si afanele, ukwenziwa kwamasemina amatemu amasha kubasebenzisi bawo, ikakhulukazi izinhlangano nezikhungo zokufunda, ukuxoxa ngamatemu amasha emisakazweni nakomabonakude bendawo; ukukhuthaza ababhali ukusebenzisa amatemu amasha, bebe bewachaza futhi, ukudayisa izincwajana ezinamaglozari nokufakwa kwamatemu amasha kwi-BAKITA..

Ngo-1992 amatemu amasha evile kwangama-20 000 ayeseqanjwe futhi amukelwa. Leli nani selikhuphuke laze layofika ezi-27 000. Kusekuningi nokho okufuneka kwenziwe ukuthuthukisa izinga lokuxhumana emikhakheni eyahlukene kusetshenziswa imiyalezo esebenza ngempumelelo. Nokho-ke lokhu kutheleka kwamatemu amaningi sekwenze ukuthi kube sengathi ulimi lwe-Kiswahili luyabandlululwa noma sengathi kunolimi olusha lweKiswahili olusungulwayo. Lesi sikhalo sesincishisiwe-ke ngoba i-BAKITA inamalungu amele imiphakathi eminingi eyahlukene ekhuluma iKiswahili.

3. Ukwamukelwa kwamatemu

Kuningi okunomthelela ekwamukelweni nasekusetshenzisweni ngempela kwamatemu ngabasebenzisi. Eziningi zalezi zinto zihlobene nemifanekiso esezingqondweni zabantu ngento ethile kanye nesimo umphakathi ophila phansi kwaso. Lezi ezilandelayo ngezinye zalezo zinto ezivame ukuba nomthelela:

a. Inhlango engunyazayo

Ukwamukelwa kwamatemu kungenzeka ngezindlela ezimbili. Eyokuqala ngokuthi kumenyazelwe yinhlangano esemthethweni enegunya kanti okwesibili ngokuthi umphakathi uzisebenzisele ngokwawo lawo matemu. Indlela yokuqala idinga kube nenhlango esemthethweni ejutshwe nguhulumeni futhi emele iningi. ETanzania kukhona i-National Language Council (Baraza la Kiswahili la Taifa – BAKITA) enamaxusa asuka ezifundeni, ezikhungwini zezolimi kanye nakubakhuthazi beKiswahili abavelele.

b. Imikhuba yabasebenzisi

Ngenxa yokujwayela, imfundo noma amasiko ahambisana nemvelaphi yabo, abantu bavame ukukhetha amatemu abahlale bewezwa noma ahambisana nezinto abavame ukuzibona noma ezenzekayo kubo. . ETanzania amaKhristu angakhetha igama elithi *filosofia* kunaleli elisuka esi-Arabhini elithi *falsafa* (philosoph). Abahlala eZanzibar bangakhetha itemu elithi *skuli* kunelithi *shule* ukuchaza isikole.. Lawa matemu-ke athathwa njengomqondofana.

c. Ukufihleka noma ukuvuleleka

Amatemu avame ukwamukeleka kangcono uma evulelekile, engenamfihlo. Yingakho uthola ukuthi ukuxuba akusiyo indlela edumile yokuqamba amatemu. Isizathu salokhu ngukuthi amatemu ayingxube awahlubi udlubu ekhasini.

d. Ukusebenzisa amatemu ngendlela ecacisa incazelo

Ukutholakala kalula kwegama kubasebenzisi balo kungancika ekutheni incazelo yalo iqondakala kangakanani. Abasebenzisi abaningi baye bangabaze ukusebenzisa itemu elisha esimeni esithize, besaba ukuthi kungenzeka bangalisebenzisi ngendlela noma banikeze incazelo okungesiyo eqondiwe.

e. Ukuba khona noma ukungabikho kwamanye amatemu

Kuyatholakala ukuthi ezimeni lapho abakhulumi bolimi sebeze bajwayela khona amanye amatemu, noma engesiwo afanele, kunzima ukuwayeka kuqalwe amasha. Lokho kukhonjiswa ngu-Ohly (1978) kwenye imboni yezindwangu ese-Dar es Salaam lapho abasebenzi baqhubeka khona ukusebenzisa amatemu abo, bangawanaki lawo ahlelenjiwe.

f. Umlando wokusetshenziswa kwegama

Umlando wegama ungaba yisithiyo uma lavela ngendlela engathandeki, isib. igama elithi *staarabu* ukuchaza impucuko. Ngokomlando walo lichaza isimo sokuba yi-Arabhu elingaphelele. Kufana negama elithi *swine flu* eselenze ukuthi abanye abantu balaxaze ingulube ngenxa yokwesaba ukuthi bazothola isifo, kanti empeleni isifo lesi asihlangene nakancane nezingulube.

g. Ukulindela ukuthi amatemu esayensi abe nokuhambisana

Amatemu amaningi esayensi ahlukani noma ngomsuka wawo. Ososayensi bakhetha ukuthi kusetshenziswe izimpawu ezithize ukukhombisa lokhu kuhlobana komsuka Nokho-ke ososayensi bebengabi nomdlandla kahle lapho amatemu ehlukene ngokubujwa.

h. Ukufaka engqondweni nokukhumbula

Ukwenzeka kwezinto kuyabonisa ukuthi amagama amafushane anezinhlamvu ezingeqile kwezintathu futhi angenazo izinhlamvu ezixutshiwe alula ukuwafaka engqondweni futhi asheshe asebenziseke olimini kunalawo amade (Temu, 1982). Lokho-ke kwenza amagama ambaxa njengaleli 'thamanikikalori' (*calorie value*) abe yinkinga.

4. Isiphetho

Imisebenzi eyenziwayo ukwakha amatemu idinga isikhathi, isineke nokusebenzisana. Uma kungenzeka, lo msebenzi kufanele wenziwe yisikhungo socwaningo esinabacubunguli bolimi abangakwazi ukuhamba izindawo ezahlukene beqoqa amatemu asevele ekhona.

Iningi lamatemu liye lamukelwe ngabasebenzisi. Izinga lokusetshenziswa ngempela kwawo empilweni yemfundomsebenzi yabasebenzisi lincika kumuntu ngomuntu nomsebenzi awenzayo.

Uhlobo lwabantu abangabasebenzisi balawo matemu aqanjwayo luba nomthelela endleleni okwakhiwa ngayo itemu elisha Isibonelo: amagama abolekiwe asebenza kakhulu emikhakheni enabantu abasezingeni eliphezulu kanti amagama asuselwa kulona qobo ulimi asebenza kakhulu emikhakheni enabantu abasezingeni eliphansi.

Ingxoxo emva kwentetho kaNjingalwazi Batibo igxininise kwisidingo sokubanganisa ubugcisa nobuchule obusele bukho ngenjongo yokukhuthaza uphuhliso nokubanjiswa kwesigama esitsha, ingakumbi kwezemfundo. I-ofisi enkulu yakwaSANTED kucetyiswe ukuba ibe yiyo eququzelela eli linge. U-Essop kodwa uye wanqanda, esithi owona msebenzi kaSANTED kukunika inkxaso kulawulo lwezi projekti, nokukhuthaza ukusetyenziswa kweelwimi ezininzi kwezemfundo. Uye walekela ngelithi lo msebenzi ucetywayo, ogqalisele ikakhulu ekukhuthazeni iilwimi ezininzi kwezemfundo, uyimfuneko kodwa kufuneka ubonise umsebenzi oqhubekayo kwiiProjekti zikaSANTED, futhi kufuneka uququzelelewe zizo ezi Projekti, zibambisene nezinye iiProjekti. Ukwathe kufuneka uSANTED azilungiselele ngobuchule kule meko intsba yezepolitiki ukwenzela ukuba umsebenzi wakhe uqapheleke, futhi ube nefuthe kwezemfundo ngokubanzi.

3. The use of African languages for effective education at tertiary level

H.M. Batibo

1. Introduction

Whiteley (1971) made a clear distinction between 'first language' and 'primary language'. 'First language' refers to the language that a child first learns to speak. On the other hand, a 'primary language' is the language that is predominant in a person's life and it is the language that he/she identifies himself/herself with, linguistically and psychologically, that is cognitively and affectively. This language may or may not be the basis of his/her ethnic identity. This is the language that is ideal in facilitating a learner's education as he/she will be related to it cognitively. If it happens to be an African language, which is usually the case (either mother-tongue or major African language), then the learning process ought to take place in this language, not only at the lower level of education, but also at secondary and tertiary levels.

2. The use of African languages at tertiary level

The advantages of using African languages, as primary languages, in tertiary education, include the following.

First, during tertiary education, the young learners are exposed not only to new information but also to new concepts and ideas. The learners will strive to fit the new concepts within their conceptual and intellectual

framework and experience in order to comprehend and internalise the information. Where a non-primary language is used, the young learners will lack the supportive tool for proper comprehension, deepening their grasp of ideas and their articulation of issues. These young people will grow up visibly inarticulate, passive, timid, and lacking in confidence. This is clear when you observe students, in many of our tertiary institutions, discussing topics or issues, using a non-primary language, like English. They usually lack fluency, confidence, and depth in their articulation of ideas. This is because there is a direct relationship between language proficiency and intellectual performance (Kishindo & Kazima, 2000; Nobel, 1982).

Second, it is a well known fact that there is no country in the world which has developed on the strength of a foreign language. All developed countries use their own languages, however small, like the Netherlands or Denmark. Even the fast developing countries in the world such as China, South Korea, Thailand and Malaysia, are developing on the strength of their own languages. The plain secret is that what these countries have done is to tap the technology from the advanced world, with a few people learning and transferring the technology into the local languages and culture. Thus, the technology has been adopted and adapted to the local needs through acculturation. The technology has now been entrenched right into the grass-roots and all the citizens have become owners of this technology.

Third, one other advantage of using the African or home languages in tertiary education is that they allow the young learners, and later graduates, to connect with the communities which they are going to serve in their various professions. Most community members will usually not be fluent in the ex-colonial languages like English, French or Portuguese. The young graduates will be able to render better service and be more easily accepted in the communities if they speak to them in the local languages like isiXhosa, isiZulu, Setswana, Afrikaans, etc. They will be able to deliver their messages more easily and clearly if they are trained in one of the local languages.

Fourth, in many tertiary institutions, particularly cultural, anthropological and medical research centers, there is a lot of effort to infuse indigenous knowledge into the educational systems. Many scientists have recognised some of the unique practices and skills contained in the indigenous knowledge. Most of the items, concepts and world view can be best captured in the African, rather than ex-colonial languages. The infusion, recording and rendering of such concepts can only be carried out effectively in the language which connects the knowledge to its traditional environment.

Fifth, any education is expected to be life-long. Every educational system expects the learners to develop skills that will enhance the learning process to be life-long by constant interaction with the intellectual world in the relevant profession. The channel of intellectualisation will include relevant interactions, self initiated discoveries and innovations. So as to ensure that our own languages contribute to the process of life-long education, we need to empower and intellectualise them. At the same time, if we want to connect our tertiary education to our life-long education, we need to orient the knowledge to our African languages as these form part of our lives.

Lastly, the use of a language at tertiary level, which is close to the relevant community, makes the tertiary institution part of the community. The community feels that it has a close relationship with the learners and that they are not in an Ivory Tower enclosure or in an alien environment.

3. Challenges

Although there are many logical advantages in the use of our languages for effective education, there are also problems and challenges which have been pointed out.

First, terminology is an important component of the learning process, since all concepts need to be supported by appropriate and concise terms. Most African languages have crucially limited technical terms, simply because most of them were used as family, village and cultural media. They therefore do not have terms in the various fields of education, science and technology. However, this does not mean that our languages are incapable of delivering these concepts by the use of other strategies. Terminologies are necessary for economy and precision of discourse.

Second, most of our tertiary level learners tend to be biased against the African languages. They see the ex-colonial languages, like English, to be associated with job opportunities and white-collar jobs. We need therefore to change the mind-set of the employers and the general public to recognise the communicative value of the African languages.

Third, no country will ignore the importance of English, as a language of globalization and information technology in the present world. However, linguistically speaking, the presence of English should complement rather than replace the African languages.

Lastly, one other argument which has been aired in favour of ex-colonial languages is the absence or limited academic literature in the local languages. Most of our libraries are well stocked in English, French or Portuguese

medium books, and hardly any in the local languages. However, with full commitment and support from the language users, it is possible to generate a substantial and effective amount of literature in African languages.

4. Conclusion

Africa is the least developed continent in the world. The African leaders have constantly blamed this under-development on colonialism, which is now nearly 50 years since it was done with. As long as the mass of the people are not sufficiently mobilised and involved in the developmental efforts of our nations, not much will be achieved. The people should be empowered to be the masters of their destiny. Hence they must use a language and a culture that belong to them and to which they can relate.

Prof Kaschula, as the discussant of the paper, concurred with the sentiments expressed in Prof Batibo's seminar paper. He added that African Languages Departments are often wrongfully seen as the only departments that should respond to language issues at HEIs, especially those pertaining to indigenous African languages. He stated that if there is a relationship between language proficiency, thought and intelligence, then all Faculties in HEIs should examine their response to the language factor, and put intervention measures that should possibly respond to their language needs, in line with the language demands of the region within which the HEI is situated geographically.

The discussion focused on whether, given the nature of the linguistic and cultural diversity of universities, that there should be one indigenous African language favoured for development and use over others. Prof Batibo responded that it is the nature of academic institutions globally to be diverse, but that this diversity does not necessarily impact negatively on the local languages, belief systems and indigenous knowledge systems as is the case in Africa. He related his story, as an example, that when he did his PhD in France, he had to learn French because he was required to do it in French.

3. Ukusetyenziswa kweelwimi zesiNtu kwimfundo enempumelelo kumaziko emfundo ephakamileyo

H.M. Batibo

1. Intshayelelo

UWhiteley (1971) waye wawucacisa gca umahluko phakathi 'kolwimi lokuqala' nolwimi oluphambili'. 'Ulwimi lokuqala' lulwimi aqala ngalo umntwana ukuthetha. Kanti ke ngenx' enye, 'ulwimi oluphambili' lulwimi olulolona lusetyenziswa kakhulu ebomini bomntu, kwaye lulwimi azibiza ngalo, ngokokusebenzisa nangokwasemoyeni, oko kukuthi ngokokucinga nangokwasemxhelweni. Olu lwimi lusenokuba lolohlanga lwakhe okanye lusenokungabi lolohlanga lwakhe. Lulwimi olukufanele kakhulu eku-menzeneleni lula emfundweni yakhe umntu, njengoko yona imchaphazela ngokwasekucingeni. Ukuba ngaba olu lwimi luthi kanti lulwimi lwesiNtu, into ke leyo ekuxhaphake ukuba ibe njalo (mhlawumbi lolweenkobe okanye lulwimi lwesiNtu olusetyenziswa kakhulu), kufanele ke ukuba ukufundiswa kwakhe kuqhutywe ngolu lwimi, kungekuko phaya kumanqanaba emfundo asezantsi kuphela, koko nasesekondari nakumaziko emfundo ephakamileyo.

2. Ukusetyenziswa kweelwimi kwinqanaba lamaziko emfundo ephakamileyo

Indlela ekunceda ngayo ukusebenzisa iilwimi zesiNtu njengeelwimi eziphambili kwimfundo ephakamileyo ibandakanya oku kulandelayo.

Okokuqala ngexesha bekumaziko emfundo ephakamileyo abafundi abasebancinane abakho kwimeko apho bafumana nje ulwazi olutsha kuphela, koko bafumana namagama amatsha neembono ezintsha. Abafundi baza kuthi ke bazame ukuba la magama matsha bawahlanganise noko sele benako ngokweengcinga nolwazi kwakunye namava abanawo, khona ukuze baziqonde ezi nkukacha zintsha, bazibandakanye kuvimba wabo wolwazi. Xa kungasetyenziswa ulwimi oluphambili abafundi abasebancinane baya kuba nokuqhwalala ngakwicala lesixhobo esibaxhasayo ekuqondeni izinto kakuhle nangokufanelekileyo, eku-betheleleni umqondo wabo wezimvo nasekuphimiseleni kwabo imiba. Aba bantu batsha baya kukhula ke bebonakalisa ubuquza ekuthetheni, bengoothuletu, besoyika kunjalo nje bengenakuzithemba. Le nto iyacaca xa uqaphela abafundi kumaziko emfundo ephakamileyo amaninzi xa be bexoxa ngezihloko ezithile okanye ngemiba ethile, besebenzisa ulwimi olungelulo oluphambili, olufana nesiNgesi. Bakholisa ukuqhwalala ngakwicala locikizeko lwentetho, kwelokuzithemba nakwelobunzulu besakhono sokuvakalisa izimvo. Le nto yenziwa kukuba lukhulu unxulumano phakathi kocikizeko kolwazi lolwimi nendlela esebenza ngayo ingqondo (Kishindo noKazima, 2000; Nobel, 1982).

Okwesibini, yinto eyaziwayo ukuba alikho ilizwe apha ehlabathini elathi lakhuliswa kukusebenzisa ulwimi lwasemzini. Onke amazwe aphambili ngophuhliseko asebenzisa iilwimi zawo, nokuba mancinane kangakanani na, njengeHolani neDenmark. Kanti nala mazwe akhawulezayo uku-khula, afana nelaseTshayina, iSouth Korea, iThailand neMalaysia, akhula ngeelwimi zawo. Ihlebo elicacileyo lona kukuba into ayenzileyo la mazwe kukuya kudimbaza itheknoloji kumazwe aphambili ngophuhliseko, kukho abantu abambalwa abafundayo ngale theknoloji baze ke bayise kwiilwimi nakwiinkcubeko zala mazwe. Ngoko ke le theknoloji iye yathathwa yaza yalungiselelwa iimfuno zawo ngokuyingqamanisa neenkubeko zawo. Le theknoloji ngoku ibetheleleke yada yaya kufika nakwasezantsi amanqanaba oluntu, kwaye bonke abemi bayithatha njengeyabo.

Okwesithathu, enye into encedayo ekusebenziseni ulwimi lwesiNtu okanye lwasekhaya kumaziko emfundo ephakamileyo kukuba le nto yenza ukuba aba bafundi basebancinane – kanti naxa sebezifumene izidanga zabo – bakwazi ukuqhagamshelana nabo bahlali baya kusebenza phakathi xa sele kwimisebenzi ngemisebenzi yabo. Abahlali abaninzi bakholisa ngokuba bangakwazi ncam ukuthetha ezi lwimi zababefudula bengabathimbi bemihlaba, iilwimi ezifana nesiNgesi, isiFrentshi okanye isiPhuthukezi. Olu

lutsha lugqibileyo imfundo yalo luya kunika iinkonzo ezibhetele, kwaye luya kwamkeleka lula kubahlali xa lukwazi ukuthetha iilwimi zabo ezifana nesiXhosa, isiZulu, iSitswana, isiBhulu, njl. Luya kukwazi ukuyigqithisa lula nangokucacileyo imiyalezo yalo kubahlali, ukuba ngaba bathe baqeqeshwa kolunye lweelwimi zasekuhlaleni.

Okwesine, kumaziko emfundo ephakamileyo amaninzi, ngakumbi kumaziko ophando ngezenkcubeko, ezentlalo yeentlanga nangezonyango, zininzi iinzame ezenziwayo zokuhlanganisa ulwazi lwemveli kwiinkqubo zemfundo. Oosolwazi benzululwazi abaninzi sele bezithathele ingqalelo iinkqubo nezakhono ezimfano iyodwa eziqulathwe kulwazi lwemveli. Ubuninzi bezinto, neembono ngobomi behlabathi zingaqondakala bhetele ngeelwimi zesiNtu kunangeelwimi zababefudula bengabathimbi bemihlaba. Ukuhlanganiswa, ukugcinwa ngokubhalwa kwakunye nokwazisa ngezi mbono zizinto ezinokwenzeka ngempumelelo xa zisenziwa ngolwimi olukwaziyo ukwayamanisa ulwazi nentsukaphi yalo ngokwasemvelini.

Okwesihlanu, nayiphi na imfundo ilindeleke ukuba ibe lilifa lobomi bomntu bonke. Nakuluphi na uhlobo lwemfundo abafundi balindeleke ukuba baphuhlise izakhono zabo eziya kuthi zibenze bakwazi lula ukuhlala befunda ngokuthi apha ebomini babo basoloko bebulandela ubungcali nolwazi oluvelayo kuloo macandelo basebenza kuwo. Iphulo lokunyuswa nokuqiniswa kweelwimi liya kubandakanya imefumlalwano efanelekileyo, ukufunyaniswa noyilo lwezinto ezintsha. Ngoko ke, ukuze siqinisekise ukuba iilwimi zethu ziyalenza igalelo kumsebenzi wemfundo yalo lonke ixesha lokudla ubomi, kufuneka sizixhobise, sizinyusele kumazinga okusebenziseka kwiinkalo zonke. Kananjalo, ukuba ngaba sifuna ukunxibelelanisa imfundo ephakamileyo yethu nemfundo yalo lonke ixesha lokudla ubomi, kufuneka ukuba ulwazi silugqalise kwiilwimizesiNtu zethu, njengoko ziyinxenye yobomi bethu.

Okokugqibela, ukusetyenziswa kolwimi kwiziko lemfundo ephakamileyo elikufuphi nendawo ethile kwenza ukuba iziko elo libe yinxenye yaloo ndawo. Abahlali bendawo leyo baye bazive benobudlelane obuqinileyo nabafundi, bengavalelekanga enkampini okanye bephantsi kweemeko zasemzini.

3. Imingeni

Nangona zininzi izinto eziluncedo ekusetyenzisweni kweelwimi zethu kwimfundo enempumelelo, zikwangako neengxaki neningeni ethe yaveliswa.

Okokuqala, isigama yinto ebaluleke kakhulu kumsebenzi wokufunda, njengoko zonke ezi zinto zintsha kufuneka zinikwe amagama afanelekileyo nangamabanzana amafutshane. Ubuninzi beelwimi zesiNtu ziqhwalela kakhulu ngakwicala lamagama aphaathelele kwiinkalo zobugcisa nobungcali, ngesizathu nje sokuba ubuninzi bazo zazisetyenziswa kuqhagamshelwano lwasemakhaya, olwasesixekweni nakolweemeko zezenkubeko. Ngoko ke azinawo amagama kwiinkalo ezifana neyemfundo, eyenzululwazi neyethenoloji. Kambe ke, loo nto ayithethi ukuba iilwimi zethu azinakho ukuba zingazitsho ezi zinto ngokusebenzisa amanye amacebo. Izigama ziyimfuneko kuqoqosho nakuqhagamshelwano oluchanekileyo.

Okwesibini ubuninzi babafundi bethu abakumaziko emfundo ephakamileyo banento yokungazijongeli ntweni iilwimi zesiNtu. Iilwimi zababefudula bengabathimbi bemihlaba bazibona izezona zihamba namathuba emisebenzi kunye nemisebenzi yasezifosini. Ngoko ke kuyafuneka ukuba sizijike iingqondo zabaqeshi nezoluntu ngokubanzi sizinqwanqwadele kwicala lokuliqonda ixabiso lweelwimi zesiNtu kuqhagamshelwano.

Okwesithathu, akukho lizwe liya kukutyeshela ukubaluleka kwesiNgesi njengolwimi losondelelwano lwamazwe ehlabathi netheknoloji ngokwale meko kuseyiyo ehlabathini kungoku nje. Kambe ke, xa sekuthethwa ngeelwimi, ubukho besiNgesi bufanele ukuba buzancedise iilwimi zesiNtu endaweni yokuba sithathe indawo yazo.

Okokugqibela, enye into evakaliswayo ngokukhetha ukutyekela ngakwicala leelwimi zababefudula bengabathimbi bemihlaba kukungabikho okanye ukungabikho ngokwaneleyo kweencwadi ezibhalwe ngeelwimi zalapha kwinqanaba lemfundo ephakamileyo. Ubuninzi bamathala eencwadi ethu aneencwadi ezininzi zesiNgesi, ezesiFrentshi okanye ezesiPhuthukezi, ibe liyaqobana nje kwezeelwimi zalapha. Kambe ke, xa abasebenzisi bezi lwimi benokuzinikezela ekuzinikeni inkxaso, kungakwazeka ukuveliswa kweembalo ezininzi nezineempumelelo ngeelwimi zesiNtu.

4. Elokuqukumbela

Kwihlabathi lonke iAfrika lelona lizwekazi lisezantsi ngophuhliseko. Iinkokeli zaseAfrika kuseloko zalilisele ngokugxeka ukuthinjwa kwemihlaba ngolu qhwalelo kuphuhliso, ukuthinjwa kwemihlaba oko sele kuphantse ukuba ngama-50 eminyaka kwayekwayo. Ukuba uluntu ngokubanzi alude lugaywe lubandakanywe kumalinge ophuhliso lwezizwe zethu, ayisayi kuze ifikeleleke ngokwaneleyo impumelelo. Kufuneka ukuba

abantu baxhotyiswe, khona ukuze bakwazi ukubambelela nkqi kubobona babo. Kungoko ke kufuneka ukuba basebenzise ulwimi nenkcubeko ezizezabo, nabakwaziyo ukuzibiza ngazo.

UNjingalwazi Kaschula, owayephendula kwintetho kaNjingalwazi Batibo, uvumelene nezimvo zephepha elo. Utshe esithi amaSebe eeLwimi zesiNtu, abonwa ngokungathi ngawo ekufanele ukuba ajongane nemiba engeelwimi zesiNtu eziyuni-vesithi, nto leyo ingeyonyani. Uye wathi ukuba kukho unxulumano phakathi kolwimi aluthethayo ubani, ingcinga kunye nengqiqo, zonke iiFakalthe kumaziko emfundo ephakamileyo kufanele ziphonononge indlela ezikhangela ngayo izinto ezimalunga neemfuno zeelwimi zabafundi bazo, ze zithathe amanqanaba afanelekileyo, ngokuhambelana nezidingo ezimayela nolwimi kuloo ngingqi iziko elo lemfundo likuyo.

Ingxoxo iye yavela nombuzo othi, xa kukhangelwa iilwimi neenkcubeko ezahlukileyo eziseziyuni-vesithi, kungaba kufanelekile na ukuba kuthathwe ulwimi olunye kukhethwe lona ukuba luphuhliswe, zinganakwa ezinye iilwimi? UNjingalwazi Batibo uphendule wathi amaziko emfundo ephakamileyo ehlabathini jikelele anabafundi abaneelwimi neenkcubeko ezahlukileyo kodwa ke le yantlukwano akufanelekanga ukuba ibe nefuthe elibi kwiilwimi, kwiinkolelo nakulwazi lwemveli lwengingqi, njengoko kunjalo e-Afrika. Uye wabalisa ibali lakhe, umzekelo, apho kwathi xa wayesiya kufunda isidanga sobugqirha eFransi, kwafuneka afunde isiFrentshi kuba kwakulindeleke ukuba asenze esi sidanga ngesiFrentshi.

4. Concept literacy in Mathematics and Science: experiences with the development and use of a multilingual resource book in Xhosa, Zulu, English and Afrikaans in South Africa

Marc Schäfer

It goes without saying that the understanding of key concepts in mathematics and science is fundamental to the teaching and learning of these disciplines. Research confirms that one of the key dimensions to understanding concepts is language. The intimate relationship between language and the understanding of concepts is well documented. For example, the poor performance of South African learners in the 1995 and 1999 TIMSS is largely ascribed to the problem that learners and teachers have in studying and teaching through English as a second or even third language. To address this problem a multilingual learning and teaching resource and support book (Grade 9–10 levels) was developed at the Centre for Applied Language and Literacy Studies and Services in Africa (CALLSSA) at the University of Cape Town in collaboration with Rhodes University and the University of KwaZulu-Natal. The book provides detailed meanings and explanations for key mathematics and science concepts in Zulu, Xhosa, Afrikaans and English. It is argued that when learners and teachers have access to these concepts in their own languages, they can transfer such understanding to their dealing with English as the language of learning and

teaching (LoLT). The book was validated through a collaborative process involving the three universities. The validation process was enhanced by a research process of trialing and evaluating the book in the classroom practice.

This *inter alia* included an investigation of:

- the accuracy of the concept explanations in the four languages used;
- the appropriateness of the translations;
- the general effectiveness of the book as a learning and teaching resource.

The research involved the participation of Grade 10 teachers in the Western Cape, Eastern Cape and KwaZulu-Natal of South Africa.

This workshop aims to share some of the experiences encountered in the development of this book by briefly describing the development process and the content of the resource book, and also highlighting some of the research issues that were encountered with special reference to code-switching practices as a central pedagogical strategy in many South African classrooms.

Discussion at the end of the presentation focused largely on the standard and nonstandard varieties of (SA indigenous) languages, and how these could complement each other in the classroom. There was a consensus that whilst efforts such as Schäfer's could be met with resistances from users of the material, it does not necessarily warrant discontinuing them. Resistance could also be because of other factors, for example, the unfamiliarity of the language in the discipline in which it is used, general negative attitude towards indigenous languages, the fact that indigenous languages are not used in assessment, amongst others.

4. Ikhono lokufunda nokubhala izibalo nesayensi: Ulwazi olwatholakala ngokwenza nokusebenzisa incwadi eyinsiza enezilimi ezahlukeneyiXhosa, isiZulu, isiNgisi nesiBhunu

Marc Schäfer

Kuyiqiniso elingephikwe ukuthi ukwazisisa imiqondomagama ebalulekile ezifundweni zezibalo nesayensi kuyisisekelo sokufundisa nokufunda lezi zifundo. Ucwangingo luyakufakazela ukuthi enye yezinto ezibonisa ukuthi umuntu uyakuqonda okushiwoyo, wulimi. Ukuhlobana okunzulu phakathi kolimi nokwazi umqondomagama yisihloko osekubhalwe kakhulu ngaso. Isibonelo salokhu yimiphumela emibi eyatholwa ngabafundi baseNingizimu Afrika ngo-1995 nango-1999 kwi-TIMSS. Kwatholakala ukuthi imbangela yalokhu yinkinga abafundi nothisha abahlangabezana nayo lapho kufundwa noma kufundiswana ngesiNgisi, esiwulimi lwesibili noma lwesithathu kubona. Ukuxazulula le nkinga kwasungulwa incwadi eyinsiza yokufunda nokufundisa enezilimi ezahlukeneyi (ebangeni 9–10). Le ncwadi yasungulwa yi-Centre for Applied Language and Literacy Studies and Services in Africa (CALLSSA) eNyuvesi yaseKapa, ngokubambisana neNyuvesi yase-Rhodes neNyuvesi yakwaZulu-Natali. Incwadi le inikeza izincazelo ezigcwele zemiqondomagama yezibalo nesayensi ngesiZulu, isiXhosa, isiBhunu nesiNgisi. Kuthiwa-ke uma abafundi nothisha bengaba nolwazi olugcwele lwale miqondomagama ngezilimi zabo, bangakwazi ukusebenzisa lokho kuqonda kwabo uma sebefunda noma befundisa ngesiNgisi (LoLT).

Incwadi lena yahlolwa yamukelwa kusetshenziswa uhlelo olungumfelanda-wonye walawa manyuvesi omathathu. Lolu hlelo lwalulekelelwa indlela yokucwaninga eyayenziwa ngokuthi incwadi izanywe ekilasini ilungiswe ize ifike ezingeni elenelisayo.

Nazi ezinye zezinto ezacutshungulwa:

- ukushaya emhlohlweni kwezincazelo zemiqondomagama
- Ukuhumusheka kahle kwemibhalo
- Ukusebenza kahle kwencwadi njengensiza yokufunda nokufundisa;

Ucwaningo lwaluhlanganisa ukubamba iqhaza kothisha bebanga le-10 baseNingizimu Afrika ezifundazweni iNtshonalanga Kapa, iMpumalanga Kapa neKwaZulu-Natali. Lo mhlango wokucobelelana uqonde ukwabelana ngezinto ezifundwe ngokuzibonela mathupha ngenkathi kuhlanganiswa le ncwadi. Kuphinda kuchazwe kafushane ngohlelo lokusungula kanye nokuqokethwe yile ncwadi yezinsiza. Kukhanyiswa izinto ezithize ngokucubungula okwahlanganwa nazo. Isibonelo: ukusebenzisa ulimi oluxubayo njengensika yokufundisa emakilasini amaningi eNingizimu Afrika.

Emva kweli phepha kuxoxwe ikakhulu malunga neelwimi 'ezamkeleki-leyo' nezingamkelekanga' nokuba zingancedisana njani na kumagumbi okufunda. Kuye kwavunyelwana ukuba amalinge afana nala eza nokaSchäfer anokuchaswa ngabo basebenzisa ezi ncwadi, kodwa ke oko akuthethi ukuba ezi ncwadi mazingarhoxiswe. Inkcaso ingabangelwa nayeminye imiba, umzekelo, ukungaqhelani kwabantu nokusetyenziswa kweelwimi zesiNtu kwezi zifundo, ukujongelwa phantsi kweelwimi zesiNtu ngabantu, ukungasetyenziswa kweelwimi zesiNtu xa kusenziwa uvavanyo, njalo njalo.

5. Simple rules for developing maths terminology in Kiswahili using English terminology deriving from Latin, Greek, and Indo-European: an experiential approach with some examples

Emmanuel Mkusa

Taking the example of mathematics in Tanzania, it is said that mathematics is a national problem and it is only eight percent (8%) of educated Tanzanians have credible competences in the subject. Because of weak preparation in secondary schools, we are forced to lower the standard of instruction to match this level of preparation. The result is that the standard of education has declined not only in mathematics, but in all science and technology subjects.

This scenario places Kiswahili speaking nations at a very low position among other nations where mathematics, science, and technology are concerned. The reality is, Kiswahili speaking nations are not able to prepare their own people to be mathematicians, scientists as scientists are supposed to be.

For a person to become a scientist, they are required to have assimilated knowledge in a particular to do basic and applied research in the subject, and to contribute to the body of knowledge of the subject.

Learning and understanding mathematics requires a language with a capability to explain the phenomena of mathematics, science and technology as they are perceived by scientists. Non-Kiswahili speaking people are using their own languages.

Where these languages are not able or are inadequate, the respective languages borrow words from other languages, and develop terms that represent the concepts that they intended the term to convey. Many mathematical terms have their origin in Latin and Greek languages, but English has borrowed from other languages. This paper shows how to use English, Latin and Greek to develop Kiswahili terms for use in mathematics.

There are claims that Kiswahili does not have the capability to explain itself. Besides those claims, and other claims against Kiswahili's capability, Kiswahili has this capability. That is why, in Tanzania, Kiswahili is used in general and special activities.

There are several problems that relate to the use of Kiswahili as a language of instruction in mathematics. The paper identifies the basic reasons that are responsible for not using Kiswahili as a language of instructions for mathematics and mentions them with appropriate explanation for each problem identified. The basic problems identified are:

- The thinking that there is no way of getting scientific and technological knowledge apart from using English.
- Thinking that an educated person is that who knows and speaks English.
- To think that scientific and technological terms are translation of English words.
- Journalists and radio and television presenters explaining Kiswahili terms using English language.
- Using English language as the language that can provide us with words that we can use as the origins of our Kiswahili terms
- Leaving the work to develop terms in science and technology entirely on the hands of language experts.
- Using fewer letters and not using the letter x and q at all in the standard work for developing terms in mathematics, science, and technology in Kiswahili.
- Being in a hurry in using some words in Kiswahili as Kiswahili terms and making mistakes in the use of these words.
- Not using available guidelines for developing Kiswahili terminology on one hand and not using already developed and published terms on the other.
- Not using Kiswahili, English and other relevant language dictionaries.

The result of solving a set of problems is the creation of an environment that is more conducive. This paper discusses what will be the result of solving the ten problems above. The paper further indicates that the solution of these problems will put in place the following:

1. Kiswahili will have terms in mathematics that have a similar form and the same meaning as words in English and other languages that are used as mathematical terms
2. Kiswahili will be able to use English, Latin, Greek, and Indo-European as origins of terms in mathematics using the following simple rules:
 - Use the English word as the starting point for developing a mathematical term in Kiswahili.
 - Use a dictionary of mathematical terms to find the original equivalent of the term in Latin or Greek.
 - Use the Indo-European root of the word borrowed or of the Latin or Greek equivalent term.
 - Use the pronunciation of the Latin, Greek, or Indo-European root as the basis for developing Kiswahili terms. Take care of the use of the letters x and q by using the allowed and appropriate combinations of letters in the Kiswahili alphabet. Use the existing guidelines.
 - Use a dictionary of mathematics to determine all the derivations of the term being developed in English and form the corresponding derivations of the Kiswahili term developed.
 - Check that the term developed is linguistically sound by involving language experts. Mathematicians should not work alone in the development of terms in Kiswahili and language experts should not work alone.
3. Corrections made to the existing Kiswahili terms that have not been thought through in accordance to, and in conformity with, the simple rules proposed above.

In the development of workable terms in a language, actual development of terms is very important. There are many mathematical terms in the calculus, trigonometry, and computer mathematics, to name but a few examples. The paper shows how to apply the simple rules that have been stated to the development of some Kiswahili terms in trigonometry that are equivalent to the following English terms:

sine	cosecant	arc sine	arc cosecant
cosine	secant	arc cosine	arc secant
tangent	cotangent	arc tangent	arc cotangent

Also, the paper shows how to apply the simple rules to the development of some Kiswahili terms in computer mathematics and computer science that are equivalent to the following English terms:

binary	bipartite	bit	data type
binomial	biquadratic	bit wise	abstract data type
binormal	bivariate	type	primitive data type

Developed Kiswahili terms should be used in order to demonstrate that they are usable in real mathematical setting. In this regard, the paper provides a short lesson in trigonometry where calculations of the sine, cosine and tangent of an angle will be discussed.

Discussion after Mkusa's presentation focused largely on the process of acceptance and validation of newly coined concepts, as well as the need to look at the etymology of the word, for example the Latin or Greek root. In validation, delegates agreed that in view of the fact that PanSALB is responsible for the validation and authentication of new terminology, SANTED Multilingualism Projects involved in terminology development have to establish a relationship with the organisation. In this way, work done in the area of terminology development can be authenticated and disseminated appropriately to reach a wider audience.

5. Imithetho elula yokuqamba amatemu eZibalo eKiswahili, ngokusebenzisa amatemu esiNgisi asuselwa olimini lwesiLathini, lwesiGriki nolwe-Indo-European: Indlela yokufunda ngokwenza kanye nezibonelo ezimbalwa

Emmanuel Mkusa

Uma sibheka isibonelo sezibalo eTanzania sithola kuthiwa izibalo ziyink- inga ekhungethe isizwe sonke nokuthi phakathi kwabantu baseTanzania abafundile, bangama-8% kuphela abanamakhono ongawethemba kulesi sifundo. Ngenxa yokuthi izinga lokulungiselelwa kwalesi sifundo emasek- hondari liphansi, siyaphoqeka ukwehlisa izinga lokufundisa ukuze siham- bisane nezinga abakulo abafundi esibafundisayo Umphumela walokhu-ke ukuthi izinga lemfundo selehlile, hhayi ezibalweni kuphela, kodwa kuzo zonke izifundo zesayensi nobuchwepheshe.

Lesi simo sibeka izizwe ezikhuluma iKiswahili ezingeni eliphansi kakhulu uma ziqhathaniswa nezinye izizwe emikhakheni yezibalo, isayensi nezobuchwepheshe. Iqiniso nje wukuthi izizwe ezikhuluma iKiswahili aziphumeleli ukulungiselela abantu bazo ukuthi babe ngongoti ezibalweni nakwisayensi ngendlela okufanele kube yiyo.

Ukuze umuntu abe ngusosayensi kulindeleke ukuthi abe nolwazi olwanele lwesayensi emazingeni aphantsi, akwazi ukusebenzisa akufunde ez-

incwadini ukubhekana nezinselele zangempela, abe nolwazi lokucubungula, aphumelele ukubeka induku ebandla olwazini olukhona kuleso sifundo.

Ukufunda nokuqonda izibalo kudinga ulimi olukwaziyo ukuchaza izinto ezizibalo, isayensi nobuchwepheshe ngendlela ezibonwa ngayo abantu besayensi. Abantu abangakhulumi iKiswahili basebenzisa izilimi zabo ukwenza lokhu.

Uma lezi zilimi zingenawo amagama afanele, ziye ziboleke amagama kwezinye izilimi bese bakha amatemu amele leyo miqondo abebeqonde ukuyethula Amatemu amaningi ezibalo anezimpande ezilimini zesiLathini nesiGriki kanti-ke isiNgisi siyaboleka futhi kwezinye izilimi. Leli phepha likhombisa indlela yokusebenzisa isiNgisi, isiLathini nesiGriki ukwakha amatemu eKiswahili azosetshenziswa ezibalweni.

Kukhona isisho esithi iKiswahili ayikwazi ukuzichaza ngokwayo. Phezu kwaleso sisho nezinye ezikhuluma kabi ngeKiswahili namakhono ayo, iKiswahili iyakwazi ukwenza izinto. Yilesi sizathu esibanga iTanzania isebenzise iKiswahili emicimbini ekhethekile nasemibuthwanweni kawonkewonke.

Zikhona izinkinga ezenziwa ukusebenzisa iKiswahili njengolimi lokufin-disa izibalo. Iphepha leli liveza izizathu ezibanga ukuthi iKiswahili ingasetshenziswa njengolimi lokufundisa izibalo bese lichaza inkinga ngayinye. Izinkinga ezikhonjwayo yilezi:

- Ukucabanga ukuthi ayikho indlela yokuthola ulwazi lwesayensi nobuchwepheshe ngaphandle kokusebenzisa isiNgisi
- Ukucabanga ukuthi umuntu ofundile yilowo okhipha isiNgisi ngamakhala
- Ukucabanga ukuthi amatemu esayensi nobuchwepheshe asuselwa esiNgisini.
- Izintatheli nabasakazi nabethuli bezinhlelo kumabonakude bachaza amatemu eKiswahili besebenzisa amagama esiNgisi.
- Ukusebenzisa isiNgisi njengolimi olungasinika amagama esingawasebenzisa njengawona msuka wamatemu ethu eKiswahili
- Ukuthatha umsebenzi wokuqanjwa kwamatemu esayensi nobuchwepheshe uyekelwe ezandleni zongoti kuphela.
- Ukusebenzisa ongwaqa abambalwa kuphela, ukungasetshenziswa nhlobo kukangwaqa 'x' nongwaqa 'q'. emsebenzini wokuhlelemba no-wokwakha amatemu ezibalo, isayensi nobuchwepheshe nge-Kiswahili.
- Ukuphuthuma ukusebenzisa amagama athile njengamatemu eKiswahili bese kuthi ekusebenziseni kwethu senze amaphutha.

- Ukungasebenzisi imihlahlandlela yokubumba amatemu eKiswahili kanye futhi nokungasebenzisi amatemu aseqanjiwe ashicilelwa.
- Ukungasebenzisi izichazamazwi zeKiswahili, zesiNgisi nezezinye izilimi ezithintekayo.

Umpfumela wokuxazulula izinkinga ezimbalwa ngokwakha isimo okusebenzeka kangcono kuso. Kuleli phepha kuxoxwa ngokuthi umpfumela wokuxazulula lezi zinkinga eziyishumi ezibalwe ngenhla ungaba yini. Ekuqhubekeni, iphepha likhuluma ngezinto ezibalwe ngezansi ezingalungiseka uma lezi zinkinga sezixazululiwe

1. IKiswahili izoba namatemu ezibalo abumbeke ngokufana futhi anencazelo efanayo namagama esiNgisi nezinye izilimi asetshenziswayo njengamatemu ezibalweni.
2. IKiswahili izokwazi ukusebenzisa isiNgisi, isiLathini, isiGriki ne-Indo-European njengomsuka wamatemu ezibalo ngokusebenzisa le mithetho elula elandelayo:
 - Susela egameni lesiNgisi ukwakha itemu lezibalo leKiswahili.
 - Sebenzisa isichazamazwi samatemu ezibalo ukuthola incazelo engumsuka yetemu olimini lwesiLathini, noma isiGriki.
 - Sebenzisa umsuka wegama we-Indo-European elibolekiwe noma owetemu lesiLathini noma isiGriki.
 - Sebenzisa indlela yokuphimisa amagama anemisuka yesiLathini, isiGriki noma isi-Indo-European njengesiza sokwakhela amatemu eKiswahili.
 - Qaphela ukusetshenziswa kongwaqa u 'x' no 'q'. Kwenzeka lokhu ngokuthi kusetshenziswe ingxube efanele yezinhlamvu ngokusebenzisa izingxube ezivunyelwe futhi ezilungile kongwaqa nonkaminsa beKiswahili.
 - Sebenzisa imihlahlandlela ekhona.
 - Sebenzisa isichazamazwi sezibalo ukuthola izinguquko ezakhelwa phezu kwalelo temu leKiswahili eliqanjwayo.
 - Hlola ukuthi itemu elakhiwe lishaya khona yini ngokwemithetho yolimi ngokuthi usebenzisane nezazi kwezolimi. Abantu bezibalo akufuneki basebenze bodwa ekwakheni amatemu eKiswahili kanti futhi nezazi zolimi akufanele zisebenze zodwa.
3. Ukulungisa okwenziwe ematimini akhona eKiswahili angakacatshangisiswa kahle, ngokuhambisana nangokulandela imithetho elula ephakanyiswe ngenhla.

Uma kwakhiwa amatemu azosebenziseka kahle olimini, ukubumbeka kwawo kubaluleke kakhulu. Maningi amatemu ezibalo ezinhlotsheni zezibalo ezifana ne-khalkhulasi, ithrignonomethri, kanye nezibalo zekhompinyutha. Iphepha likhombisa ukuthi isetshenziswa kanjani imithetho eqondile elula okukhulunywa ngayo ekuqanjweni kwamanye amatemu eKiswahili esifundweni ithrignonomethri, achaza lawa matemu esiNgesi:

sine	cosecant	arc sine	arc cosecant
cosine	secant	arc cosine	arc secant
tangent	cotangent	arc tangent	arc cotangent

Okunye-ke leli phepha likhombisa ukusebenzisa imithetho elula ekwakheni amanye amatemu eKiswahili ezibalo zekhompinyutha nesayensi yekhompinyutha achaza lawa alandelayo esiNgesi:

binary	bipartite	bit	data type
binomial	biquadratic	bit wise	abstract data type
binormal	bivariate	type	primitive data type

Amatemu aqanjwe eKiswahili kumele asetshenziswe ukuze kukhonjiswe ukuthi ayasebenziseka ngempela esimeni sangempela sezibalo. Sebenzisa indlela yokuphimisa amagama anemisuka yesiLathini, isiGriki noma isi-Indo European njengesiza sokwakhela amatemu eKiswahili.

Emva kwephepha likaMkusa abantu ikakhulu baxoxe malunga nenkqubo yokwamkelwa nokuqinisekiswa kwesigama esitsha. Kukwaqwalaselwe nombawokukhangela intsusa yegama, umzekelo ingcambu yesiLatini okanye yesiGrike. Xa bekuxoxwa ngomba wokuqinisekiswa kwesigama kuye kwaavunyelwana ukuba nanjengoko uPanSALB inguye ojongene nalo msebenzi, iiProjekti zikaSANTED ezenza umsebenzi wophuhliso-sigama kufanele ziqalise intsebenziswano nalo mbutho. Ngale ndlela, umsebenzi owenziweyo ungaqinisekiswa ngokufanelekileyo ze usasazwe ukuze ufikelele kubantu abaninzi.

6. Is borrowing an appropriate strategy to develop terms for teaching Maths and Science concepts in isiXhosa?

Zola Wababa and Christopher Diwu

Introduction

Learners bring to the classroom their own linguistic and conceptual understanding of the world. Therefore, if their own languages are not used as a basic tool of teaching, learning and assessment, our education is failing them. In most cases in Africa, learners are being taught in former colonial languages that are far removed from their socio-economic situation. Our terminology development project is meant to enhance and strengthen the concept of mother-tongue based bilingual education for teaching and learning purposes. It is via this route that we advocate or encourage the use of learners' home language(s) as a medium of teaching, learning and assessment. Teachers often use indigenous languages when teaching content subjects to explain or clarify certain concepts as well as to control their classes. Hence code-mixing and code-switching are used as strategies in everyday teaching and learning to mediate knowledge to learners. Textbooks and other teaching resources also appear to have been written primarily to convey information or facts rather than to make the students think and explore in their own languages.

Highly specialised English concepts and words that are used in textbooks and other teaching materials do not make sense in the real life situations of the African-language speaking majority of students. Anecdotal evidence suggests that, in most township schools, isiXhosa is used more

than English in teaching science and mathematics. For this reason we, through our terminology development project, are developing isiXhosa technical corpus in sciences, mathematics and other high conceptual learning areas.

The need for terminology development has arisen due to

- the lack of certain science and mathematics terms in isiXhosa and other African languages, leading to misinterpretation of science concepts.
- the dual translation phenomenon versus meaningful science education.
- the delay in unlocking the wealth of science knowledge encapsulated in indigenous terms/languages that might help expedite learning/understanding of science and mathematics literacy.
- the need to promote the use of African languages as mediums of teaching and learning in high conceptual learning areas.
- the need to raise the status of African languages in education.

The process of terminology development

The dictionaries we have produced are written in the three official languages of the Western Cape Province to promote its language policy in education, to enhance accessibility of the content to both teachers and learners in their home languages, to counteract the myth that African languages cannot be used to teach science and mathematics because they do not have concepts and terminology, and lastly to raise awareness around the use of African languages as languages of learning and teaching (LoLT). These dictionaries are intended for teachers and learners in the intermediate and senior phases of primary schooling as teaching and learning resources.

The key objectives of these dictionaries are:

- To aid teachers and learners in multilingual classrooms, by providing science and mathematics terms and definitions in three languages, namely isiXhosa, Afrikaans and English.
- To create technical/ scientific vocabulary in isiXhosa in particular, so that it would be possible to teach and assess in former marginalised African languages.

The process and mechanisms of developing terminology/or vocabulary

The processes and mechanisms of developing terminology and/or vocabulary are summed up in Table 1 below.

Cognitive (content) part	Linguistic part	Communicative part
<ul style="list-style-type: none"> • Deals with accuracy in describing concepts <p>E.g. let's assume that we didn't have a term for computer</p> <p>How would we start giving a term to it? The first thing we would have to do is to look at features or characteristics of a computer. What is it used for?</p>	<ul style="list-style-type: none"> • Looks at correctness of the language <p>If we agreed on a certain term e.g. ikhompyuta (in isiXhosa), do we all agree on the spelling of this term?</p>	<ul style="list-style-type: none"> • Looks at the standardisation of terms <p>This is a process of the acceptance of terms by speech communities, i.e. the people who speak the language.</p> <p>A term should give meaning to people who speak that particular language, otherwise the whole process of terminology development will be a waste of time.</p>

Table 1: The three dimensions of terminology development

Selection of terminology

Three important things to look at:

- **Level of instruction:** the level of language used in terminology should match the level of education. Terms for primary teaching should be more descriptive; for secondary teaching they should be more definitional in nature.
- **Nature of subject:** There should be a difference between terminology of different disciplines or areas of teaching, e.g. mathematics or biology terminology.
- **Level of learners:** It is important to grade the terminology according to the age or level of learners. As they move up through the intermediate (4–6) and senior (7–9) grades, learners should gradually become more familiar with the definitions of terms.

Principles of devising new terminology

Transfer of concepts: This is an important principle because without a proper transfer of concepts there can be no application of terminology in our daily lives. A concept must **have a clearly defined meaning**, in a **precise application of usage** for that **particular subject field** or domain, e.g. science, art, trade. Literal translation should be avoided because it could be misleading.

Priority of internal resources: Terminologists should start by looking at everyday language used by their communities before coining new terms or borrowing from other languages, e.g. old Bantu Education terminology lists.

Brevity: Too long or sausage terms should be avoided because terms are expected to be easily remembered, e.g. for the term *kinetic energy* or *motion energy*, should we use *amandla entsbukumo* or should we say *amandla-ntshumo*?

Consistency: We maintain consistency for a coined term which is intended to refer to a particular concept. This is quite difficult as there is a plethora of synonyms in isiXhosa that people want to keep, e.g. for the term *magnet* = *isitsalane* (something that uses its power to attract objects) or *umazibuthe* (to collect) or a borrowed term, *imagnethi*. We settled for *isitsalane* because we all agreed it is scientifically accurate.

Coining as a terminology development strategy

- **Simple equivalence:** These are the terms consisting of only one stem without affixes e.g. the term for:
chest – kifua (Kiswahili) – isifuba (Xhosa)
stem – shina (Kiswahili) – isiqu (Xhosa)
water – maji (Kiswahili) – amanzi (Xhosa)
- **Composition:** Two or more words joined to form a new lexical item e.g. giraffe – indlulamthi = dlula + mthi (verb + noun) (taller than a tree)

Borrowing as an alternative strategy: When new terms cannot readily be coined in a language through the processes discussed above, the alternative is to borrow them from other languages such as French, Greek, Latin, English or from other African languages such as Kiswahili.

borrowed term: enzyme – enzayime
photosynthesis – ifotosintesisi

Semantic extension: This involves the expansion of the meaning of an existing word in order to embrace a new meaning, e.g.

isiXhosa: xhathisa – balance (v); unzinzo esikalini – balance (n)

Yoruba: iyefun – pollen; iyefun – flour

Hausa: raga – grid; raga – net

6. Ngaba ukusebenzisa amagama emboleko yeyona ndlela ifanelekileyo yokuqulunqa isigama sokufundisa imathematika nezenzululwazi ngesiXhosa?

Zola Wababa noChristopher Diwu

Intshayelelo

Abafundi beza benawabo amagama nendlela abalibona ngalo ilizwe, into ke leyo ethetha ukuba xa iilwimi zabo zingasetyenziswa njengezixhobo zokuqala ekufundiseni, ekufundeni nasekuvavanyweni, oko kuthetha ukuba imfundo yethu ibadlala indlala. Kwiimeko ezininzi abafundi bafundiswa ngeelwimi zababefudula bengabathimbi bemihlaba, ezingasondelanga nokusondela kwiimeko zabo zentlalo noqoqosho. Iprojekthi yethu yophuhliso lwesigama ijoliswe ekuphuculeni nasekuqiniseni imbono yemfundo esekelwe kulwimi lweenkobe ngakwicala lokufundisa nelokufunda, kwaye ke ngale ndlela sishumayela okanye sikhuthaza ukusetyenziswa kweelwimi zasemakhaya ekufundiseni, ekufundeni nasekuvavanyeni. Ootitshala bakholisa ukusebenzisa iilwimi zeli zemveli xa befundisa izifundo ezingezizo ezolwimi xa becacisa izinto ezithile nasekulawuleni abafundi kwizifundo zabo. Ngeso sizathu ke ukuxuba iilwimi nokungena bephuma kwiilwimi ezahlukeneyo kusetyenziswa kakhulu ekufundiseni nasekufundeni njengesixhobo esiliqili lokudlulisela ulwazi kubafundi. Iincwadi zezifundo nezinye izincedisi zemfundo nazo zikhangeleka ngathi eyona njongo iphambili zibhalelwe yona kukunika abafundi iinkcukacha

okanye ulwazi nje endaweni yokwenza abafundi bakwazi ukuba bacinge baphande nokuphanda ngeelwimi zabo. Iinkcazo namagama esiNgesi antsokotho kakhulu asetyenziswa kwiincwadi zezifundo nakwezinye izincedisi zezifundo azinantsingiselo bakwaziyo abafundi abaninzi abantetho iziilwimi zesiNtu ukuyinxulumanisa nobomi babo bomhla nezolo. Ubungqina obufunyaniswayo bubonakalisa ukuba kwiilokishi ezininzi isiXhosa sisetyenziswa kakhulu ngaphezu kwesiNgesi ekufundiseni imathematika nezenzululwazi. Ngoko ke ngeprojekthi yesigama yethu siqulunqa uvimba wesigama sesiXhosa seenkalo zobugcisa nobungcali ezifana nemathematika, ezenzululwazi nezinye izifundo ezinobuntsompothi.

Imfuneko yophuhliso lwesigama ivele ngenxa yoku kulandelayo:

- Ukungabikho kwamagama athile abhekisele kwimathematika nezenzululwazi ngesiXhosa nangezinye iilwimi zesiNtu okwenza ukuba amagama abhekisele kwizizululwazi atolikwe gwenxa.
- Ukuguqula igama negama, kungajongwa kuze kugqithiselwe intsingiselo equlathwe ligama elo lezenzululwazi.
- Ukulibaziseka kokudinjazwa kobuqheleqhele bolwazi lwezenzululwazi oluqulathwe kumagama/kwiilwimi zemveli obeluya kunceda ekufundweni/ekuqondweni kwezifundo zenzululwazi nemathematika.
- Ukukhuthaza ukusetyenziswa kweelwimi zesiNtu ekufundiseni nasekufundeni kwiinkalo zemfundo ezinobuntsompothi.
- Ukuphakamisa inqanaba lweelwimi zesiNtu kwimfundo.

Umsebenzi wophuhliso lwesigama

Ezi zichazi-magama zibhalwe ngeelwimi ezintathu zaseburhulumenteni bePhondo leNtshona Koloni, ngeenjongo zokuphakamisa umgaqonkqubo wolwimi walo, eyokuphucula ufikeleleko lootitshala nolwabafundi kweziqulatho zazo ngeelwimi zasemakhaya zabo, neyokubonakalisa ubuvuvu nobugwenxa benkolelo yokuba iilwimi zesiNtu azinakukwazi ukusebenziseka ukufundise izifundo zenzululwazi nemathematika, kuba zilambatha kwisigama, neyeyokugqibela, ekukuphakamisa ulwazi ngokusetyenziswa kweelwimi zesiNtu njengeelwimi zokufunda nokufundisa (LoLT). Ezi zichazi-magama zijoliswe kootitshala nabafundi abakwisigaba esiphakathi nabakwesiphezulu phaya kwizikolo zaseprayimari, njengezincedisi zokufundisa nokufunda.

Ezona njongo ziphambili zezi zichazi-magama:

- Ukunceda ootitshala nabafundi kumagumbi okufundela eku-setyenziswa iilwimi ezininzi kuwo, ngokuthi banikwe amagama abhekiselele kwinzululwazi nemathematika kunye neenkcazelo zawo ngeelwimi ezintathu, ezizezi: isiXhosa, isiBhulu nesiNgesi.
- Ukuyila uvimba wesigama sezobugcisa/sezenzululwazi, ngakumbi esesiXhosa, khona ukuze kukwazake ukufundisa nokuvavanya ngeelwimi ezazifudula zisingeleke phantsi.

Umsebenzi neendlela zokuphuhlisa isigama

Iinkqubo zokuphuhlisa isigama zishwankathelwe kolu luhlu lungezantsi.

Eyengcinga (okuqulatiweyo)	uLwimi	Uqhagamshelwano
<ul style="list-style-type: none"> • Kule inkalo kujongwene nocikizeko nochaneko lwamagama/ lwam-abinzana <p>Umzkl. Masithi mhlawumbi besingenalo igama elithetha icomputer</p> <p>Besiya kuqala ngaphi ukuyila igama esiza kuyinika lona? Into yokuqala ebekuya kufuneka siyenze kukujonga inkangeleko yayo okanye iimpawu zayo nokuba isetyenziselwa ntoni.</p>	<ul style="list-style-type: none"> • Kule inkalo kujongwene nochaneko lolwimi <p>Ukuba sivene ngegama elithile, umzkl. Ikhompyuta (ngesiXhosa), ngaba sivana sonke na ngendlela yokubhalwa kweli gama?</p>	<ul style="list-style-type: none"> • Kule inkalo kujongwene nokwamkelwa kwamagama njen-gawona asesikweni/ avunye jikelele <p>Lo ke ngumsebenzi wokwamkelwa kwamagama ngabo bonke abasebenzi bolu lwimi.</p> <p>Igama kufuneka likwazi ukuba nentsingiselo ecacela wonke umntu osebenzisa olu lwimi, kungenjalo uphuhliso lwesigama lusuke lufane nje nokukhetha iimpukane emasini.</p>

Uluhlu 1: Iinkalo ezintathu emazivelielwe xa kuphuhliswa isigama

Ukukhethwa kwesigama

Izinto ezintathu ekubalulekileyo ukuzijonga

- **Inqanaba ekufundiswa kulo:** inqanaba lolwimi osetyenziswayo kufuneka luhambelane namanqanaba emfundo. Amagama asetyenziswa xa kufundiswa eprayimari kufuneka athambekele ngasekuca-

ciseni endaweni yokunika inkcazo-ntsingiselo njengawakwimfundo yasesekondari.

- **Uhlobo lwesifundo:** Kufuneka ukuba kubekho umahluko phakathi kwesigama esisetyenziswa kwizifundo ezahlukeneyo, umzkl isigama semathematika okanye senzululwazi yobomi (biology/life science).
- **Inqanaba labafundi:** Kubalulekile ukuba isigama sikhethwe ngokobudala babafundi okanye ngokwenqanaba labafundi. Abafundi kufuneka bangene nzulu ngokwezigaba kwisigama esinika inkcazo-ntsingiselo, njengokuba besiya benyukela kumabanga aphezulu nje. Umzkl. kwisigaba esiphakathi okanye esiphezulu.

Izimiselo zokuphuhlisa isigama esitsha

Ukudluliselwa kwentsingiselo: Sisimiselo esibaluleke kakhulu esi, kuba xa iintsingiselo zamagama zingadluliselwanga ngokufanelekileyo, akunakukwazeka ukusisebenzisa isigama kubomi bethu bomhla nezolo. Igama kufuneka **libe nentsingiselo echazwe ngokucacileyo, ngendlela elenza lisebenziseke lula** kuloo **nkalo ithile**, umzkl. inzululwazi, ubugcisa, urhwebo. Ukuguqula igama ngobunjalo balo kufuneka bucelwe kangangoko, kuba kungalahlekisa.

Ukubaluleka okuphambili koovimba abasele bekhona: Umphuhlisi wesigama kufuneka aqale ngokujonga indlela elusetyenziswa ngayo ulwimi umhla nezolo apha ekuhlaleni phambi kokuba aphume aye kukhangela amagama anokuwayila okanye abhenele kumagama emboleko avela kwezinye iilwimi umzkl. kuluhlu lwesigama esaphuhliswa lisebe elalisakuba lelemfundo yabaMnyama (*Bantu Education terminology list*).

Ubufutshane: Amagama amade kakhulu okanye amabinza amagama amade kufuneka acezelwe kangangoko, kuba kaloku kulindeleke ukuba amagama akhumbuleke lula, umzkl. kweli binzana: *kinetic energy, motion energy* – siza kuthi, ‘Amandla entshukumo’ okanye ‘Amandla-ntshumo’?

Unamathelo: Siyanamathela kwelo gama lithe layilelwa ukubhekisela kwinto ethile. Iye yaba nzima ke le nto, njengoko kwaye kwabakho uthotho lwezithetha-ntonye esiXhoseni abafuna ukuzigcina abantu umzkl. kweli gama: *magnet* = **isitsalane** (into ethi isebenzise amandla ayo ekutsaleleni kuyo ezinye izinto) okanye **umazibuthe** (othetha ukuqokelela) okanye igama lemboleko elithi **imagnethi**. Siye savumelana ngeli lithi **isitsalane**, kuba lelona gama siye savumelana ngalo ukuba ngokwakwinzululwazi lelona lichanekileyo.

Ukuyila njengendlela eliqili kuphuhliso lwesigama

- **Igama elinye:** La ngamagama anesiqu esinye esingenazifakelelo umzkl. igama lesiNgesi elithi:

	ngesiSwayili	ngesiXhosa
chest	kifua	isifuba
stem	shina	isiqu
water	maji	amanzi

- **Ambaxa:** Amagama amabini nangaphezulu athe adityaniswa enza igama elinye, umzkl. girrafe – **indlulamthi** = **dlula**+ **mthi** (isenzi+isibizo) (ukudlula umthi ngobude)

Ukuboleka njengenye yeendlela eziliqili: Xa kungenakwenzeka ukuyilwa lula kwamagama amatsha kulwimi oluthile ngokusebenzisa ezi nkqubo zichazwe ngentla apha, okubhenelwa kuko kukuboleka kwezinye iilwimi: **Umzkl:** isiFrentshi, isiGrike, isiLatini, isiNgesi, kanti nakwezinye iilwimi zesiNtu, umzkl. isiSwayili.

amagama emboleko: enzyme – enzayime
photosynthesis – ifotosintesis

Unabiso lwentsingiselo: lubandakanya ukunatyiselwa kwentsingiselo yegama elikhoyo kwelinye igama elitsha: umzkl.

isiXhosa: **xhathisa** – **balance** (isenzi) **unzinzo esikalini** – balance (isibizo)

Yoruba: Iyefun – ‘pollen’; iyefun – ‘flour’

Hausa: Raga – ‘grid’; raga – ‘net’

7. Developing multilingual glossaries from LSP Corpora to support concept literacy at institutions of higher learning

Dion Nkomo and Nolubabalo Tyam

A consensus now exists among sizeable sections of linguists and educationists that the use of a language other than one's home language as an academic medium hinders optimum concept literacy. In many countries where the so-called world languages such as English and French have dominated as official languages, the revision of national and educational language policies has resulted in an upsurge of language development activities in the indigenous languages. In some instances, the activities are either ill-motivated or lack both theoretical and practical guidance, resulting in some scholars from both the linguistics and educational sectors totally opposing the whole idea of developing indigenous languages. For example, the activities directed towards enhancing multilingual education in South Africa have been seen by others as a radical way of undoing the dominance of other languages executed during the apartheid era. This is due to the politicisation of the language question such that other important motivations are now conveniently ignored.

This presentation seeks to clarify the motivation of implementing multilingualism in the curriculum of higher learning and to demonstrate how the Multilingualism Education Project (MEP), housed at the Centre for Higher Education Development (CHED) at the University of Cape Town (UCT), envisages to achieve this. Although MEP champions a lot of activities which enable UCT staff and students to function multilingually not only within the university but also within the broader South

African society which adopted a multilingual national language policy as part of its democratic constitution, the focus of this presentation is on supporting concept literacy through the production of corpus-driven multilingual glossaries.

There are now many scholars such as Casterns (1999), Msimang (2000), Mphahlele (2004), Van der Walt and Fourie (2005) who have argued for and demonstrated the feasibility of the terminologisation of indigenous African languages to support teaching and learning in subjects such as Science. There are yet other scholars who are a bit critical and sceptical like Mesthrie (2008) who argue that some policy measures and implementation procedures may be necessary but not necessarily sufficient conditions for academic achievement. Such concerns are justified in view of wrong articulation and interpretation of the multilingual education agenda as well as lack of the required expertise in the production of the necessary tools. For example, given that the main challenges of implementing multilingual education policies have to do with translation and terminology, Mesthrie (2008: 331) laments that 'some proponents of multilingualism do not understand that translation and term creation are fraught with theoretical and practical difficulties'. This is unfortunate. However, if translation and term creation were more of impossibilities rather than challenges which could be overcome, then the whole multilingual education agenda would be in jeopardy. This is and should not be the case. What is critical is that all those who are aware of the problems search for practical and theoretical solutions. This is what this presentation is all about. After explicating how mother-tongue languages may be an alternative for concept literacy, it will then give an account of the on-going development of multilingual glossaries through MEP.

It is important to underline that this is an account of work in progress. The compilation of specialised (LSP) corpora for various subjects will be described. This will be followed by an account of how corpora are queried in order to generate and extract terms and data which is then used in their description. This entails the use of wordsmith tools to create term lists and concordances. It will be observed that this approach allays some of the fears expressed by scholars like Mesthrie (2008), but we acknowledge some of the challenges faced in the rendition of the glossaries in various languages, among others which emerge from this methodology. Finally, the methods of presentation and facilitating continuous development of the products are explained.

Discussion at the end of the presentation evolved around the selection of terms. Input from some delegates indicated that the frequency of the term in a text is not necessarily an indication of its importance in a specific subject. The suggestion is that while this form of term extraction can be useful, there needs to be an expert who will validate the importance of the terms in terms of the level at which they are taught. A strong suggestion also came from the floor that discipline experts need to be involved right from the beginning in the process of terminology development.

7. Ukuphuhliswa kweenkcazo- magama ezingeelwimi ezininzi kwiNgqokelela ye-LSP (LSP Corpora) ngeenjongo zokunika inkxaso kumaphulo okufundiswa kokubhala nokufunda kumaziko emfundo ephakamileyo

Dion Nkomo and Nolubabalo Tyam

Kungoku nje uvumelwano kumacandelo amaninzi eengcali zolwimi nezemfundo ngokuba ukusetyenziswa kolwimi olungelulo ulwimi lwasekhaya lwalowo ufundiswayo kuyayiqhwalelisa impumelelo yokufundiswa kokufunda nokubhala. Kumazwe amaninzi apho ezi lwimi kuthiwa ziilwimi zehlabathi, zifana nesiNgesi nesiFrentshi bezisoloko zizezona ziphambili ekusetyenzisweni njengeelwimi zaseburhulumenteni, ukuhlaziywa kwemigaqo-nkqubo yeelwimi kuye kwakhokelela ekuqhutyweni kwamaphulo amaninzi okuphuhliswa kweelwimi zemveli. Kwezinye iimeko la maphulo kukho ukuba athi kanti akacwangcisekanga kakuhle okanye akanaso isiseko sobungcali okanye isikhokelo ksokuwaqhuba, izinto ke ezo eziye zenze ukuba ezinye iingcali kwezeelwimi nakwezemfundo ziyichase kakhulu le ngcinga yokuphuhliswa kweelwimi zemveli. Umzekelo, amaphulo ajoliswe ekukhuthazeni ukusetyenziswa nokuthethwa kweelwimi ezininzi eMzantsi Afrika abonwa ngabanye abantu njengendlela yokugutyula nokungcwaba ukubekwa phambili kweelwimi ezithile ngexesha lolawulo localu-calulo. Le nto ke yenziwa kuvangwa kakhulu komba woolwimi nezopolitiko, kangan-

gokuba ngoku ezinye izizathu ezibalulekileyo azifumani ngqwalaselo.

Le ntetho-nkcazelo izama ukucacisa izizathu sokukhuthazwa kokusetyenziswa kweelwimi ezininzi kwikharithulam yemfundo ephakamileyo, nokucacisa indlela okunokufezekiswa ngayo oku, ngokokubona kwe*Multi-lingualism Education Project (MEP)* ephaya kwiYunivesiti yaseKapa (UCT) phantsi kweCentre for Higher Education Development (CHED). Nangona i-MEP iququzelela amaphulo amaninzi enza ukuba abasebenzi nabafundi base-UCT bakwazi ukusebenzisa iilwimi ezininzi kungekuko apha kumasango eyunivesiti kuphela, koko nalapha phakathi koluntu lwaseMzantsi Afrika ngokubanzi, olwathi lwamkela umgaqo-nkqubo wokusetyenziswa kweelwimi ezininzi njengenxenywe yofezekiso lomgaqo-nkqubo walo wentando yesininzi, apho ijolise khona kakhulu le ntetho-nkcazelo kusekuxhaseni imbono yokufundiswa kokubhala nokufunda ngokuqokelelwa kweenkcazo-magama ezininzi ezingeelwimi ezininzi.

Ngoku zininzi kakhulu iingcali ezifana nooCasterns (1999), ooMsimang (2000), ooMphahlele (2004), ooVan der Walt nooFourie (2005), ezishumayela, zibonakalise nokubonakalisa, ukuba yinto enokwenzeka ukuqokelelwa kwezigama zeelwimi zemveli ekuxhaseni ukufundiswa nokufundwa kwezifundo ezifana neseNzululwazi. Kukwakho kananjalo nezinye iingcali ezifana noMesthrie (2008) eziyigxekayo nezingekayiginyi ncam le mbono, ngelithi amanye amalinge omgaqo-nkubo nezinye iinkqubo zokuyisebenzisa asenokuba yimfuneko, kodwa azikho ngokwaneleyo zona iimeko zokunyusa impumelelo kwimfundo ephakamileyo. Iinkxalabo ezinje ziyavakala xa kujongwa ubugwenxa bendlela achazwa nalitolikwa ngayo amaphulo okusetyenziswa kweelwimi ezininzi kwanokunqongophala kobungcali bokuvelisa izixhobo ezifanelekileyo. Umzekelo, njengokuba imingeni ephambili ekuqhutyweni kwemigaqo-nkqubo yokusetyenziswa kweelwimi ezininzi iluguqulelo nesigama, okaMesthrie (2008: 331) ulilisela ngelokuba 'abanye abangabashumayeli bokusetyenziswa kweelwimi ezininzi abaqondi kakuhle ukuba uguqulelo noyilo lwesigama zizinto ezikhatshwa bubunzima ngakwicala leenkcazo-bungcali nakwelokuqhutywa kwazo'. Ibhulungu ke le nto. Kambe ke, ukuba ngaba uguqulelo noyilo lwesigama ibizizinto ezingenakwenzeka endaweni yokuba yimizingeni nje, imbono yokusetyenziswa kweelwimi ezininzi ibiya kuba semngciphekweni wokubhanga. Le into ke ayinjalo, kwaye ayifanelanga nokuba njalo. Into ebaluleke kakhulu kukuba bonke abo bazibonayo ezi ngxaki mabangene kwiphulo lokukhangelwa izisombululo ngakwicala leenkcazo-bungcali nakwelokuqhutywa. Le ntetho-nkcazelo ke kulapho ijolise khona. Emva kokuba kucacisiwe ukuba

iilwimi zeenkobe zingasebenziseka njani na njengendlela eyenye ykufundisa ukubhala nokufunda, iya kuthi ke ichaze uphuhliso lweenkcazo-magama ezingeelwimi ezininzi oluqhutywa nge-MEP.

Kubalulekile ukuba igxininiswe indawo yokuba le yinkcazelo ngomsebenzi osaqhutywayo. Ukuqulunqwa kwengqokelela yeenkalo ezithile (LSP) elungiselelwe izifundo ngezifundo iza kuchazwa. Oko ke kuya kulandelwa yinkcazo yendlela ezihlatywa ngayo amadlala ezi ngqokelela, khona ukuze kuveliswe amagama neenkukacha ezithi ke zisetyenziswe kwiinkcazo zawo. Oko ke kubandakanya ukusetyenziswa kwezixhobo zobungcali bokuyila amagama ekuqulunqeni izintlu zamagama neencwadana zeenkcazo zamagama abalulekileyo asetyenziswa kwiinkalo okanye kwizifundo ezithile. Kuya kuqatshelwa ke ukuba indlela ekusetyenzwa ngayo iyalulalisa ufuba kwiingcali ezifana nalo kaMesthrie (2008), kodwa ke siyazivuma zona ezinye zeengxaki ekudityanwa nazo ekuqulunqweni kweenkcazo-magama kwiilwimi ngeelwimi, nezithi ezinye zazo zivele kule ndlela yokusebenza. Elokuqokumbela ke, ziyachazwa iindlela zokwenza intetho-nkcazelo nezokwenza lula umsebenzi wophuhliso lweziphumo.

Ingxoxo apha yona ijikeleze kumba wokukhethwa kwesigama. Abo beebhona bathe ukuxhaphaka kwegama kumbhalo othile akubonisi ukuba elo gama libalulekile kweso sifundo. Icebo elaye lanikwa lelokuba nangona eli cebo lokukhupha isigama lingaluncedo, kufanele kubekho umntu oyingcali kweso sifundo oza kuqinisekisa ukubaluleka kweso sigama ngokuhambela nenqanaba esifundiswa kulo eso sifundo. Kuye kwacetyiswa nokuba iingcali ngesifundo eso kufuneka zibandakanywe kwasekuqaleni kwenkqubo yophuhliso-sigama.

8. Inkqubo yophuhliso lwesigama se-ICT ngesiXhosa

Msindisi Sam, Lorenzo Dalvit, Pamella Maseko

Kubalulekile ukuba iilwimi zesiNtu zisetyenziswe kumaziko emfundo nakwezinye iinkalo. Kwiminyaka edlulileyo ezi lwimi bezibekwe kwelokulibala. Apha eMzantsi Afrika ezi lwimi bezisetyenziselwa ukucalu-calula iintlanga, hayi ukusetyenziswa njengeelwimi zokuphuhlisa uluntu. Urhulumente wengcinezelo uthathe ixesha elide ephuhlisa kuphela iilwimi zaseNtshona (isiNgesi nezinye), engazikhathalelanga iilwimi zesiNtu (Kaschula noAnthonissen, 1995:98). Le nto ibangele ukuba ezi lwimi zingasetyenziswa ngokupheleleyo njengeelwimi zokufundisa. Ezinye zezizathu ezibangela ukuba abantu bazichase iilwimi zesiNtu kukukhankanya indima yokunqongophala kwesigama, ukungabikho ngokupheleleyo kwezixhobo zokufundisa, njalo njalo. Le mingeni ifana nokunqongophala kwesigama ithande ukuqatsela kwiinkalo ezifana nobuGcisa nobuChwepheshe, Izifundo zoPolitiko, njalo njalo (Webb & Kembo-Sure, 2000, NCHE 1996). U-Osborn (2006) uyayikhaba into yokusengela phantsi ukuphuhlisa nokusetyenziswa kweelwimi zesiNtu ngelithi nazo ezi ziiilwimi ekufanelekileyo ukuba zisetyenziswe kwezemfundo nakwiinkalo eziphuhlileyo efana nezeNzululwazi nobuGcisa. Uqhuba ngelithi naliphi na ulwimi kufaneleke ukuba lunikwe ithuba lokuba lwandise amathuba okufikelela kubuchwepheshe banamhlanje ngakumbi xa kukho abantu abalusebenzisayo. Uye athi ukusetyenziswa kweelwimi zaseNtshona zodwa kubeka abo bathetha iilwimi zesiNtu esichengeni, yaye oko kubangela ukuba sithandabuze nekamva lezilwimi zesiNtu zingasetyenziswayo (Osborn, 2006:86).

Umgaqo-siseko weli loMzantsi Afrika uyayikhankanya indima yokubaluleka kokuphuhlisa nokusetyenziswa kweelwimi zesiNtu (Umgaqo-siseko weli loMzantsi Afrika 1996). Akhona namanye amaq-

umrhu, imibutho yabucala namaziko aphantsi korhulumente athabatha inxaxheba ekuphuhliseni isigama nezixhobo zokufundisa ngeelwimi zesiNtu (U-PRAESA, UTranslate.org, U-PanSALB). Kuphando olwenziweyo yinxalenye yabafundi abaphumelela emagqabini ngabo babhala iimviwo besebenzisa iilwimi zabo zeenkobe. Kwiphondo laseNtshona-Koloni uninzi lwabafundi bathetha isiBhulu yaye iimviwo zabo bazibhala ngolwimi lwabo lweenkobe. Oku kuye kwabangela ukuba bafumane iziphumo ezincomekayo kwiimviwo zebanga leshumi (Heugh 2002). Eyona nto ingumngeni ekusetyenzisweni kweelwimi zesiNtu okwangoku kukunqongophala kwesigama nezixhobo zokufundisa eziphuhlise ngezi lwimi.

Kwimihla esiphila kuyo ii-ICTs (umzekelo: iikhompyutha, i-intanethi, oomabona-kude nezinye) zibalulekile ngakumbi ekuphuhliseni ulwazi nokufikelela kwiinkonzo ezilulutho eluntwini yaye zinceda ukuba abantu abahlala kwiindawo ezahlukeneyo bakwazi ukwabelana ngeenkukacha. Oku kuquka ukuphuhlisa kwezoqoqosho, imfundo noluntu ngokubanzi. Kutsha nje nabantu abahlala emaphandleni nasezilalini nabo bayaxhamla ekusebenzisweni ubuxhaka-xhaka bekhompyutha njengokuba ukusetyenziswa kwee-ICTs kukhula mihla le. Owona mngeni ubangela ukuba abantu abasemaphandleni nasezilalini bangafikeleli ngokupheleleyo kwii-ICTs lulwimi. Inxalenye yezixhobo ze-ICT iphuhlise ngesiNgesi yaye apha eMzantsi Afrika isiNgesi lolona lwimi lusetyenziswayo ezifundweni nakweminye imimandla. Ukuze ubani axhamle kumathuba amaninzi afana nemisebenzi okanye ukusebenzisa iikhompyutha kufanele ukuba akwazi ukuthetha isiNgesi. Kubantu abaphuma kumakhaya ahlelelekileyo nasezilalini apho isiNgesi singasetyenziswa mihla le oku kungumngeni. Apha eMzantsi Afrika bambalwa abantu abakwaziyo ukuthetha isiNgesi ngendlela efanelekileyo. Oku kuthetha ukuba abona bantu bafikelelayo kwii-ICTs ngabantu abafundileyo yaye inxalenye yabantu abafundileyo bahlala kwiidolophu (Osborn 2006). Njengoku ifuthe lokusetyenziswa kweelwimi zesiNtu liye likhula yaye kwenziwa iinzame zokuphuhlisa izixhobo zokufundisa ngezi lwimi, lo mngeni wokufikelela kwi-ICT ungasonjululwa ngokuthi kuphuhlise isigama nezixhobo ngeelwimi zesiNtu. Ii-ICT zingenza indima enkulu ekuphuhliseni isigama njengokuba zibangela ukuba bonke abantu abathetha ulwimi oluthile banxibelelane yaye zingacutha amathuba okuchitha imali eninzi ekuphuhliseni izixhobo zokufundisa. I-Intanethi iya kubangela ukuba wonke umntu okweli limiyo afikelele kwizixhobo zokufundisa. Oku kwahlukile kunaxa ubani esebenzi-

sa iincwadi, kuba zona zifuna ukuba kuveliswe amawaka-waka eencwadi eziza kuthi zisasazwe kwilizwe lonke.

Kweli phepha sithetha ngendima yokuphuhlisa kwesigama se-ICT ngesiXhosa. Eli lelinye lamaphulo okuzama ukuvelisa izixhobo ezibhalwe ngolwimi lwesiNtu, injongo ikukuphuhlisa ezi lwimi zikwazi ukusetyenziswa ngokupheleleyo ezikolweni nakwiinkalo eziphuhlileyo. Eli phulo lithatyathwa yiprojekti iSANTED ephantsi kweCandelo leZifundo ngeelwimi zesiNtu. Lona eli candelo likwiSikolo seeLwimi kwiYunivesithi yaseRhodes. Le projekti yintsebenziswano phakathi kukarhulumentu weli loMzantsi Afrika kwakunye nowaseNoweyi yokuphuhlisa imfundo kumaziko emfundo ephakamileyo kweli loMzantsi Afrika. Le projekti inamalungu afunde izifundo ezahlukeneyo. Oku kuquka ubuChwepheshe beKhompyutha, izifundo zoLwimi nezifundo zoNxibelelwano. Isininzi sala malungu athetha isiXhosa njengolwimi lwawo lweenkobe. Ezi zakhono zahlukeneyo zala malungu zibalulekile, kuba kolu phuhliso lwesigama se-ICT ziveza izimvo ezahlukeneyo.

Apha kwesi siqendu sephepha sixoxa ngeendlela ezisetyenzisiweyo ukuyila isigama se-ICT ngesiXhosa. IsiXhosa sikhethwe ngenxa yokuba lolona lwimi luthethwa ngabantu abaninzi apha eMpuma Koloni. Kananjalo kuxwebhu loMgaqo-Nkqubo woLwimi waseRhodes ikhankanyiwe indima yokubaluleka kokuphuhlisa kwesiXhosa njengolwimi lokufunda nokufundisa (Umgaqo-Nkqubo woLwimi weYunivesithi iRhodes 2005). Isigama sethu sithatyathwe kwincwadi esetyenziswa ngabafundi abafunda intshayelelo kubuChwepheshe beKhompyutha eRhodes. Inguqulelo yegama nganye inengcaciso ebhalwe ngesiXhosa size sinike imizekelo ukucacisa banzi igama elo. Zintathu iindlela ezisetyenzisiweyo ukuvelisa amagama, ezizezi: isigama esibolekiwo, isigama esiguqulelweyo kwakunye nesigama esiyiliweyo ngokomsebenzi welo gama.

Isigama semboleko siquka amagama athe abolekwa esiNgesini. La magama akakho kulwimi ekugqaliswe (isiXhosa) kulo; loo nto ibangele ukuba abaguquleli balithathe igama baliguqulele lifaneleke kulwimi ekugqaliswe kulo. Kubakho utshintsho olukhoyo kuhlobo olubhalwe ngalo igama, kodwa akukho mahluko ungako xa igama ulifunda. Abaguquleli balandela imithetho yolwimi ekugqaliswe kulo. Oku kuthetha ukuba kufakelwa isimaphambili kulandelwe neminye imiyalelo yolwimi. Inxalenye yezibizo kwiilwimi zesiNtu zibhalwa ngokudibanisa iceba kwisiqu segama, e umzekelo igama u- 'computer' ngesiXhosa ngu- 'ikhompyutha' (i- + -khomyutha). Nalu uluhlu lwamagama e-ICT emboleko:

<i>Amagama e-ICT abhalwe ngesiNgesi</i>	Amagama e-ICT abhalwe ngesiXhosa
File	Ifayile
Circuit	Isekethi
Chart	Itshati
Email	Imeyile
Internet	I-Intanethi
Web	Iwebhu
Slide	Isilayidi
Computer	Ikhompyutha
Average	I-avareji

Isigama esiguqulelweyo siquka amagama athe aguqulelwa esiXhoseni engakhange abolekwe kulwimi lwentsusa. Indlela elibhalwe ngayo igama kwakunye nohlobo elibizwa ngalo konke oko kwahlukile kulwimi lwentsusa (isiNgesi). Eli gama liguqulelwe ngokwendlela elisetyenziswa ngayo kulwimi ekugqaliswe kulo. La magama ngamagama asele ekhona kulwimi ekugqaliswe kulo. Uya kuqwalasela ukuba inxalenye yamagama aguqulelwe kwiilwimi zesiNtu athanda ukuba made kwaye aba yindibanisela yezibizo. La alandelayo ngamagama aguqulelweyo:

<i>Amagama e-ICT abhalwe ngesiNgesi</i>	Amagama e-ICT abhalwe ngesiXhosa
<i>Adjustment</i>	Utshintsho lolungelelwaniso
<i>Alignment</i>	Ulungelwaniso
<i>Bold</i>	Ngqindilili
<i>Bullets</i>	Iimbumbulu
<i>Cut</i>	Ukusika
<i>Column</i>	Umgca ohlayo
<i>Deletion</i>	Ukucima
<i>Indent</i>	Ushenxiso
<i>Line spacing</i>	Isithuba phakathi kwemigca
<i>Find</i>	Fumana

Isigama esiyiliweyo siquka amagama athe ayilwa ngokwemisebenzi yawo. Amanye amagama ayilwe ngokulandela amabakala ayanyaniswa nenkcubeko yakwaXhosa. Umguquleli uguqulela igama okanye ilungu lekhompyutha

ngendlela elisetyenziswa ngayo ngokuthi ajonge into eyeleleneyo kwink-cubeko yakwaXhosa. Umzekelo wegama elithe laguqulelwa ngokulandela le ngcaciso ingentla ngu*wizard* lona liguqulelwe ngokuba 'ngumvumisi'. Umvumisi ngumntu onyangayo kwaXhosa (igqirha) othi avumise xa ezama ukuhlola ukuba yintoni ekhathaza isigulana eso. Ngokwekhompyutha i*wizard* (umvumisi) sisixhobo sekhompyutha esingabambekiyo esithi sikhokele umsebenzisi- khompyutha xa efaka izixhobo zekhompyutha ezingabambekiyo. Zithi ezi zixhobo zikhokele umsebenzisi ngemiyalelo ethi imncedise ekufakeni ezo zixhobo zingabambekiyo. Nanga amanye amagama athe ayilwa:

<i>Amagama e-ICT abhalwe ngesiNgesi</i>	Amagama e-ICT abhalwe ngesiXhosa
<i>Client</i>	Umxhotyiswa
<i>Client/Server</i>	Umxhotyiswa-mxhobisi
<i>CPU</i>	Ingqondo yekhompyutha
<i>Default</i>	Uselekho
<i>Keyboard</i>	Isichwethezi
<i>Motherboard</i>	Umqolo wekhompyutha
<i>Server</i>	Umxhobisi
<i>Wizard</i>	Umvumisi

Esi sigama se-*ICT* siyafumaneka kwiwebhu ku-<http://isixhosa.ru.ac.za>. Sikwafumaneka nanjengeencwadana. Oku kubangela ukuba abafundi bakwazi ukuveza ezabo izimvo malunga neqondo legama galinye. Abafundi bayakwazi ukucebisa banike igama ngalinye amanqaku. Esi sigama siza kuhlolwa kwizikolo ezisemaphandleni. Oku kuza kwenza indima ekuphuhliseni ukusebenzisa isigama se-*ICT* esibhalwe ngesiXhosa.

Ezi ngxoxo zingentla ziye zalandelwa yiseshoni apho bonke abantu abebethatha inxaxheba kule ntlanganiso baye babelana nabanye malunga neendlela abazisebenzisayo ukuphuhlisa isigama. Abantu abaninzi bayablangana, kukhethwe isigama ziingcali ze siguqulelwe zizo iingcali zesifundo eso nezolwimi. Kukwachazwe nokuba i-UKZN kunye neLRDC yesiZulu zinentsebenziswano entle kakhulu kwaye amaxesha amaninzi le LRDC iba yinxenye yale nkqubo.

8. Process of developing ICT terminology in isiXhosa

Msindisi Sam, Lorenzo Dalvit, Pamela Maseko

It is important that African languages should be used in other domains at institutions of higher education. In the past these languages were relegated to oblivion. Here in South Africa these languages were used as instruments of racial division, rather than for development. The apartheid regime invested a lot of time in the development of the languages of the West (English and others), paying no attention at all to African languages (Kaschula & Anthonissen, 1995: 98). This led to a situation in which these languages were not sufficiently used as languages of teaching. Some of the reasons for people to oppose the use of African languages as languages of teaching and learning include lack of terminology, insufficient teaching and learning (resource) material, etc. Challenges like lack of terminology have become pervasive in such domains art and technology, political studies, etc. (Webb & Kembo-Sure, 2000: NCHE, 1996). Osborn (2006) rejects the indifference meted out to the development and use of African languages, arguing that these languages can be used effectively in such specialised domains as science and art. He goes on to say that any language should be given the opportunity to extend and refine its capacity to handle today's technological complexities, especially when there are people who use that language. He says that the exclusive use of the languages of the West tends to disadvantage those who speak African languages and to make us pessimistic about the future of these languages (Osborn, 2006:86).

The South African Constitution attaches a lot of importance to the development and use of African languages (Constitution of the Republic of

South Africa, 1996). There are other councils, private sector organisations and government institutions that are actively involved in the development of terminology and teaching and learning material as tools in the use of African languages as languages of teaching and learning (PRAESA, Translate.org, PanSALB). Research conducted has shown that some of the students who pass with flying colours are those that use their mother languages when they write their examinations. In the Western Cape the majority of learners speak Afrikaans and they write their examinations in their mother languages. This result of this has been that they obtain relatively good results in the matric examinations (Heugh, 2002). What is a challenge in the use of African languages currently is lack of terminology and teaching and learning material that has been originated in these languages.

Today ICTs (e.g. computers, internet, television and others) are very important, especially in knowledge development and accessing of essential services and they enable people living in different places to share information. This includes the development of the economy, education and social development in general. Today even people who live in rural areas are also enjoying access to computer equipment, as the use of the ICTs is growing rapidly. The biggest challenge that stands between rural people and access to the ICTs is language. Some of the ICT software has been developed in English, and in South Africa English is the language that is used in education and other domains. For one to be able to enjoy the many opportunities, such as employment opportunities or the ability to use a computer, one must be able to speak English. People who come from poor families and rural areas where English is not used on a daily basis, this is a big challenge. In South Africa there are very few people who can speak English fluently. This means therefore that people who have access to the ICTs are the educated and most educated people are in the urban areas (Osborn, 2006). As the need for the use of African languages is growing gradually and as there are efforts to develop teaching and learning material in these languages, the problem of access to the ICTs can be solved through the development of terminology and teaching and learning material in the African languages. ICTs can play a very significant role in terminology development because they can facilitate communication among all the people who speak a particular language, and furthermore, they can reduce spending on the development of teaching and learning material. The internet will enable everybody to have access to teaching and learning material, which is different from the use of books, because books

need to be produced in thousands that are going to be distributed to all parts of the country.

In this presentation we discuss the issue of ICT terminology development in isiXhosa. This is one of the attempts to develop teaching and learning material in the African languages, with the aim of promoting a broad use of these languages in schools and in specialised domains. This initiative is under the auspices of the SANTED Project which is housed in the African Languages Studies Section of the School of Languages at Rhodes University. The project is a joint venture of the South African and the Norwegian governments in educational development at the institutions of higher education in South Africa. Participants in this project come from a variety of educational fields, which include ICT studies, language studies and communication studies. The majority of these participants are mother tongue speakers of isiXhosa. The varying skills of these participants are very useful to the development of ICT terminology, because they bring in a variety of angles in the approach.

In this section of the presentation we discuss the approaches used in developing ICT terminology in isiXhosa. IsiXhosa has been chosen because it is the language spoken by the majority of people in the Eastern Cape. Furthermore Language Policy Document of Rhodes University the issue of the development of isiXhosa as a language of teaching and learning (Rhodes University Language Policy, 2005). Our terminology is taken from a book that is used by students of Introduction to Computer Studies at Rhodes University. The translation of each term is followed by an explanation given in isiXhosa and examples are given for further clarification. There are three ways in which terms are developed, viz.: borrowing (loan words), translations, and coinages that are based on the function of the item.

Borrowed terms include words borrowed from English. These do not exist in the target language (isiXhosa), and therefore the translators will take the words and write it in a manner that is appropriate to the orthography of the target language. There will therefore be a change in how the word is written but with not much difference in how it sounds. The terminologists follow the word structure rules of the target language, such as the insertion of prefixes, and others. In some African languages nouns are formed by prefixing an article to the stem, for example the word 'computer' is 'ikhompyutha' (i + khompyutha) in isiXhosa. Here is a list of ICT borrowed terms:

<i>ICT terms in English</i>	ICT terms in isiXhosa
File	Ifayile
Circuit	Isekethi
Chart	Itshati
Email	Imeyile
Internet	I-Intanethi
Web	Iwebhu
Slide	Isilayidi
Computer	Ikhompyutha
Average	I-avareji

The terminology includes words that have been translated into isiXhosa, without borrowing from the source language. The way in which the word is written and pronounced is different from the source language (English). In the target language this word has been translated according to its use in the target language. These are words that already exist in the target language. One notices that some words that have been translated into African languages tend to be long and are mostly compounds in the case of nouns. The following are translated words:

<i>ICT terms in English</i>	ICT terms in isiXhosa
<i>Adjustment</i>	Utshintsho lolungelelwaniso
<i>Alignment</i>	Ulungelwaniso
<i>Bold</i>	Ngqindilili
<i>Bullets</i>	Iimbumbulu
<i>Cut</i>	Ukusika
<i>Column</i>	Umgca ohlayo
<i>Deletion</i>	Ukucima
<i>Indent</i>	Ushenxiso
<i>Line spacing</i>	Isithuba phakathi kwemigca
<i>Find</i>	Fumana

Coinages include terms that have been coined according to their respective functions. Some words have been coined by associating them with some cultural practice of amaXhosa. The terminologist translates the word or the computer concept by associating its function with a similar concept in the culture of amaXhosa. An example of a word that has been translated in this way is 'wizard' which has been translated by 'umvumisi'. 'Umvumisi' (*igqirha*) in isiXhosa is someone invokes the assistance of the spirits in finding the cause of the illness or misfortune of the patient/client. In the context of computer language 'wizard' (*umvumisi*) is an intangible facility that assists a computer user when installing some software. This software then, through a series of commands, guides the user in installing the intangible facility. Here are other terms that have been coined:

ICT terms in English	ICT terms in isiXhosa
Client	Umxhotyiswa
Client/Server	Umxhotyiswa-mxhobisi
CPU	Inggondo yekhompuyutha
Default	Uselekho
Keyboard	Isichwethezi
Motherboard	Umqolo wekhompuyutha
Server	Umxhobisi
Wizard	Umvumisi

This ICT terminology is obtainable from the website <http://isixhosa.ru.ac.za>; it is also available in a book form. This enables the learners to express their views about each term. Learners are able to give advice and to give points to each term. This terminology is going to be piloted at rural schools; this will contribute to the promotion of the use of isiXhosa in ICT.

The presentations above were followed by a short session in which other delegates shared on methods and tools they use in developing terminology. Most delegates use a 'workshop style' where terms are selected by discipline experts, then developed in collaboration with experts and language specialists. UKZN also has a good working relationship with the IsiZulu LRDC and they are often part of the process.

9. Terminology development and promotion of multilingualism in HEIs

Lorenzo Dalvit

Terminology development and use at Higher Education Institutions (HEIs) in South Africa is at the core of the debate on multilingualism in education. In this paper I attempt to answer the question 'why developing and using terminology in African languages at HEIs?' by highlighting the paradoxes inherent to the debate, as well as its ideological and practical implications. I conclude with some reflection based on the SANTED experience at Rhodes University.

Under apartheid, terminology development in the African languages supported their official status in the homelands and their use as media of instruction for the first years of schooling. Some scholars argue that these efforts only served the interests of the apartheid government in marginalising speakers of an African language and that the quality of the terms developed was poor (Van Huyssteen, 2003). According to these scholars, this contributes to the negative stigma affecting the use of African languages today. Other authors (Mahlalela-Thusi & Heugh, 2001) see these past experiences as proof that African languages can indeed be developed and used for use in education, provided that the political will and institutional support is there. These contrasting views suggest that there is more to the debate on terminology development in the African languages than just pedagogical and linguistic considerations.

The ideological dimension of the debate is highlighted by what one could call the *paradox of terminology development* (see Alidou & Mazrui, 1999; Webb & Kembo-Sure, 2000). On the one hand, African languages

are excluded from the academic domain because of lack of appropriate terminology. Developing such terminology is an expensive and lengthy process, especially if one considers that all nine indigenous African languages are affected. On the other hand, one could argue that there is little motivation to develop terminology in languages which are not effectively used in the academic context. In a democratic country like South Africa, the development of African languages should ideally enjoy the support of their own speakers. Some evidence (see Barkhuizen, 2001) suggests that this is not the case.

Given this context, one might wonder why South African HEIs should develop and use terminology in the African languages at all. This dilemma relates to what Janks (1998) calls the *access paradox*. On the one hand, use of terms in the African languages promises to support understanding of content subjects by members of marginalised communities with low levels of English proficiency. On the other hand, becoming familiar with terms in such languages excludes their speakers from the powerful academic discourse dominated by English terminology. Supporters of Cummins's (1986) interdependence hypothesis could argue that development of mother-tongue Cognitive Academic Language Proficiency (CALP) supported by terminology in an African language can be transferred to the target language (i.e. English). In simpler words, terms in an African language can be used as 'stepping stones' towards mastering their English equivalents.

By itself, terminology in the African languages cannot be expected to support the development of academic proficiency in either language. Terminology development and implementation must be part of an integrated approach, which supports the creation of an original discourse (be it bilingual or purely in an African language). New terms should be created and presented as part of meaningful texts, such as teaching material or even academic publications (such as the present one!). An integrated approach would support the common practice of code-switching between English and African languages at all levels. In spite of negative attitudes of both teachers/lecturers and students, a more coordinated and structured use of two languages could bring about pedagogical benefits and constitutes a better reflection of the multilingual reality of many students in South Africa (Setati et al., 2002).

General lack of support for African languages among their speakers begs the question of who should drive the process of terminology development. As noted by Wright (2007), terminology development in the African

languages might be seen as serving the agenda of self-interested institutions and academics. A 'top down' approach to development contradicts the recommendation of the LANGTAG (1996) and could make the implementation of new terminology problematic. HEIs can rely on multi-disciplinary resources, material and immaterial, to support research, teaching and outreach. This puts HEIs in a prime position to coherently develop, trial, monitor adoption of and disseminate new terminology. My own PhD research (Dalvit 2009) was informed by such an approach and was integrated within the SANTED programme at Rhodes University. My findings indicate that getting isiXhosa-speaking university students involved in the development and use of terminology in their mother tongue improves their overall attitudes towards the use of African languages in education, even in the English-dominated field of Computer Science.

Terminology development within the SANTED programme at Rhodes University supports multilingualism by promoting the use and status of isiXhosa in several different ways. Interventions in Computer Science aims at increasing access for speakers of isiXhosa to a high-status but historically English-dominated field of study. Terminology developed in this field is part of teaching material (a bilingual glossary and manual) used both by Rhodes students and within outreach computer literacy projects in townships and rural areas. Its impact and adoption are the object of scholarly research by members of the programme. Terminology in the fields of Law and Pharmacy has been developed and integrated in second language courses and teaching material. Students in these fields interact with the predominantly isiXhosa-speaking Grahamstown community as part of their training. All terminology is developed collaboratively according to the *translate@thon* method. A multi-disciplinary team (composed of SANTED members as well as students) works collaboratively during intensive sessions. The success of this model has attracted interest in collaboration by other departments within the University (e.g. Politics, Education, Journalism, etc.).

Our initial experience allows us to venture some speculations about future developments. As we expand to other departments, differences in approaches to development and role of terminology between the various disciplines will emerge. As we gain experience, we will also be in a better position to comment on the best strategies for terminology development, particularly in relation to the use of borrowings as opposed to indigenous terms. Collaboration across languages, such as the experience of the present

workshop, promises to yield interesting insights into the commonalities, intelligibility and possible interoperability of terminology in closely-related languages. One could argue that a synergetic approach could make it easier in the future to exchange academic texts and teaching material between isiXhosa and isiZulu, for instance.

In conclusion, we see our experience in terminology development as having a catalytic effect in spear-heading multilingualism at Rhodes. Our integrated, multi-disciplinary and participatory approach received extensive support from the management as well as the students, as well as attracting interest from the media and the academia. We believe this emphasises the role of terminology development programmes at HEIs in promoting multilingualism. Such efforts can contribute to countering one of the main arguments to exclude African languages from the academic domain: perceived lack of appropriate terminology.

9. Ukuphuhliswa kwesigama nokukhuthazwa kokusetyenziswa kweelwimi ezininzi kumaziko emfundo ephakamileyo

Lorenzo Dalvit

Uphuhliso lwesigama nokusetyenziswa kwaso kuMaziko eMfundo ePhakamileyo (HEIs) eMzantsi Afrika yeyona nto iphambili kwiingxoxo ezimalunga nokusetyenziswa kweelwimi ezininzi emfundweni. Kweli phepha ndizama ukuphendula umbuzo othi, 'kutheni kuphuhliswa, kusetyenziswa isigama seelwimi zesiNtu kuMaziko eMfundo ePhakamileyo?' ngokuthi ndigxininise iindawo ezingathi zilungile kodwa zijoliseke kwiziphumo ezigwenxa kule ngxoxo, ngokunjalo nakwifuthe lako ngakwi-inkolelo zezopolitiko nakoko kufanele kwenziwa. Ndiqokumbela ngeembono ezisekelwe kumava endiwafumene kwi-SANTED kwiYunivesithi yaseRhodes.

Phantsi kombuso wocalu-calulo, uphuhliso lwesigama kwiilwimi zesiNtu lwalujoliswe ekuxhaseni ukusetyenziswa kwazo njengeelwimi zaseburhulumenteni kumaphandle nasekusetyenzisweni kwazo ekufundiseni ngazo kwiminyaka yokuqala esikolweni. Ezinye iingcali zithi la malinge yayingamalinge awayejoliswe ekuncediseni urhulumente wocalu-calulo ekuchwetheleni bucala abo bathetha iilwimi zesiNtu, nokuba umgangatho wesi sigama saqulunqwayo wawuphantsi kakhulu (Van Huyssteen, 2003). Ngokwezi ngcali le nto inegalelo kutshabhiseko lokusetyenziswa kweelwimi zesiNtu namhlanje. Abanye ababhali (Mahlalela-Thusi & Heugh, 2001) bawabona la mava njengobungqina bokuba eneneni iilwimi

zesiNtu zingakwazi ukuphuhliseka, kunjalo nje zisetyenziswe emfundweni, kodwa ke xa ngaba kukhona ukuzinikezela kuloo nto ngakwicala likarhulumente, kwaye akhona namaziko okunika inkxaso. Ezi zimvo zingqubanayo zisixelela ukuba kuninzi okunye okubandakanyekayo kule ngxoxo yophuhliso lwesigama kwiilwimi zesiNtu okungaphandle kwemiba yemfundo neyolwimi.

Eli cala leenkolelo zezopolitiko apha kule ngxoxo lugxininiswa yinto anokuthi umntu xa eyibiza *bubumbolombini bophuhliso besigama* (jonga kuAlidou & Mazrui, 1999; Webb & Kembo-Sure, 2000). Ngenx' enye, iilwimi zesiNtu zichwethelwa bucala kwinkalo yemfundo ephakamileyo ngenxa yokunqongophala kwesigama esifanelekileyo. Ukuphuhliswa kwesigama esilolo hlobo kuziindleko, kwaye ngumsebenzi othatha ixesha elide kakhulu, ngakumbi xa umntu ejonga nendawo yokuba zolithoba iilwimi zesiNtu ziyachaphazeleka. Kanti ke ngenx' enye, umntu angatsho nokuthi luncinane kakhulu uthakazelelo lokuphuhliswa kwesigama kwiilwimi ezingasetyenziswa ngempumelelo kwinkalo yemfundo ephakamileyo. Kwilizwe elilawulwa ngentando yesininzi, njengoMzantsi Afrika lo, uphuhliso lweelwimi zesiNtu lufanele ukuba lufumane inkxaso yabo bathetha ezi lwimi. Ubungqina bona bubonakalisa ukuba ayinjalo loo nto (jonga kuBarkhuizen 2001).

Phantsi kwemeko enjalo ke, umntu angaye azibuze ukuba ngaba kutheni na amaziko emfundo ephakamileyo aseMzantsi Afrika kufuneka ephuhlise asebenzise isigama seelwimi zesiNtu. Le ngxaki ya kulaa nto ithethwa nguJanks (1998), athi *bubumbolombini bofikeleleko (access paradox)*. Kanti ke ngenx' enye ukusetyenziswa kweelwimi zesiNtu kunika ithemba lokuqondwa kokuqulathwe kwizifundo ezingezoelwimi ngabo bavela kwiindawo ezisingeleleke phantsi, apho ulwazi lwesiNgesi lukumazinga asezantsi. Kwelinye icala ke ukusazi esi sigama ngezi lwimi kuphela kubakhethele ecaleni abo bathetha ezi lwimi kwiingxoxo zemfundo ephakamileyo, ekugquba kuyo isiNgesi. Abo bamxhasayo uCummins's (1986) kuluvo lwakhe ngoxhomekeko lomnye komnye banokuthi uphuhliso lwe *Cognitive Academic Language Proficiency (CALP)* yolwimi lweenkobe oluxhaswa sisigama esikulwimi lwesiNtu lungasetyenziswa kolo lwimi kujoliswe kulo (oko kukuthi, isiNgesi). Ngamanye amazwi amagama akulwimi lwesiNtu angasetyenziswa 'njengezibuko' elisa ekuwaqondeni nangesiNgesi.

Isigama solwimi lwesiNtu, sisodwa nje, akunakulindelwa ukuba singakwazi ukuxhasa ucikizeko olukwizinga lemfundo ephakamileyo kuzo zom-

bini ezi lwimi. Uphuhliso lwesigama nokusetyenziswa kwaso kufuneka kube yinxenye yendlela ehlanganisiweyo exhasa uqulunqo lwentetho yentsusa (nokuba ingeelwimi ezimbini okanye ekulwimi lwesiNtu qha). Amagama amatsha kufuneka aqulunqwe asetyenziswe kwiimbalo ezinentsingiselo ecacileyo, ezifana nezincedisi zokufundisa okanye ushicilelo olukwinqanaba lwemfundo ephakamileyo (olufana nolu!). Indlela yokusebenza ehlanganisiweyo ingayixhasa le nto seyiqheleke kakhulu yokudibanisa iilwimi, isiXhosa nesiNgesi, xa kuthethwa, kumanqanaba onke. Nakubeni kukho iinkolelwana ezigwenxa ngakwicala lootitshala/labahlolhi nelabafundi, ukusetyenziswa okunxibelelaniseke kakuhle kweelwimi ezimbini kungaba neziqhamo ezilulutho kakhulu kwezemfundo, kunjalo kungaba ngumfanekiso obhetele wento ekhoyo yokusetyenziswa kweelwimi ezininzi ngabafundi abaninzi eMzantsi Afrika (Setati et al 2002).

Ukungafumani kweelwimi zesiNtu inkxaso kwabo bazithethayo kwenza kuvele umbuzo othi ngaba ke iya kuba ngubani oya kuba ngumthunzi wophuhliso lwesigama. Njengoko esitsho uWright (2007), ukuphuhliswa kwesigama kwiilwimi zesiNtu kusengabonwa njengento ejoliswe ekufeze-kiseni iinjongo eziza kuba lulutho kumaziko nabahlolhi bawo nje kuphela. Inkqubo yophuhliso 'elufunzelo lwabangezantsi ngabangentla' iyangquzulana nezindululo ze-LANGTAG (1996), kwaye ingakwenza kube yingxaki ukusetyenziswa kwesigama esitsha. Amaziko emfundo ephakamileyo angancedeka kakhulu kwizibonelelo zamacandelo ngamacandelo. Ezi zizinto eziphathekayo nezilubonelelo olungezozinto zinokubonwa ngamehlo, ekuxhasweni kophando, ukufundisa namaphulo okuya kuncediswa kwabangaphandle kwawo la maziko. Le nto yenza ukuba amaziko emfundo ephakamileyo akwazi kakuhle ukuphuhlisa isigama esitsha ngendlela ecwangciseke kakuhle, asivavanye, abeke iliso nasekusetyenzisweni kwaso nasekuhanjiswa kwaso. Uphando lwam lwezifundo zobugqirha (Dalvit 2009) lwaye lwasekeleka kule ndlela yokusebenza, lwahlanganiswa nephulo le-SANTED kwiYunivesithi yaseRhodes. Iziphumo zophando lwam zibonakalisa ukuba ukubabandakanya abafundi abantetho isisiXhosa ekuphuhliseni nasekusetyenzisweni kwesigama kulwimi lweenkobe lwabo kuziphucula kakhulu izimvo zabo ngokusetyenziswa kweelwimi zesiNtu emfundweni, kunjalo nje nakwiinkalo ekugquba isiNgesi kakhulu kuzo ezifana nezekhompuyutha, i *Computer Science*.

Uphuhliso lwesigama kwiphulo le-SANTED kwiYunivesithi yaseRhodes luyakuxhasa ukusetyenziswa kweelwimi ezininzi ngokukhuthaza ukusetyenziswa kwesiXhosa nokunyaswa kwenqanaba esikulo, ngeendlela

ngeendlela. Amanyathelo kwizifundo zekhompuyutha, i*Computer Science* ajoliswe ekuncediseni abo bantetho isisiXhosa bakwazi ukufikelela kwinkalo yezifundo ekugquba isiNgesi kuyo. Isigama esiphuhlisiweyo kule nkalo siyinxenye yezincedisi zokufundisa (inkcazo-magama elwimi-mbini nencwadana esisikhokelo) ezisetyenziswa ngabafundi baseRhodes nakumaphulo okufundisa ikhompuyutha kwabangaphandle kweyunivesithi le, ezilokishini nakwimimandla yasemaphandleni. Ifuthe laso nokusetyenziswa kwaso ziinkalo zophando olukwizinga lemfundo ephakamileyo oluqhutywa ngamalungu eli phulo. Siphuhlisiwe isigama kwinkalo yezoMthetho neyeZifundo ngaMayeza (*Law and Pharmacy*), kwaye siyabandakanywa kwizifundo zeelwimi zesibini nakwizincedisizokufundisa zazo. Abafundi kwezi nkalo bayadibana nabahlali baseRhini abantetho yabo isisiXhosa, isikakhulu, njengenxenye yezifundo zabo. Sonke isigama siphuhliswa ngentsebenziswano ngendlela yokusebenza ye*translate@thon*. Iqela elibandakanya abavela kwiinkalo zokufunda ezahlukeneyo (elibandakanya kumalungu e-SANTED kwakunye nabafundi) lisebenza ngobambiswano kwiindibano ezinyathela umhlaba obanzi kakhulu. Impumelelo yesi sikhokelo iye yawutsala kakhulu umdla wamanye amacandelo eyunivesithi kwintsebenziswano (umzkl. eleZifundo zezo, ezeMfundo, ezoBuntatheli, njl.).

Amava ethu asinika amandla okukhe siphose iingqondo zethu ngokunokuthi kwenzeke phambili phaya. Njengokuba sisya sinabela nakwamanye amacandelo nje, kuza kuya kuvela ukungaboni ngasonye phakathi kwamacandelo ngamacandelo malunga neendlela ekufanele ukuba kuqhutywe ngazo nangenxaxheba yesigama. Njengokuba sisiya sifumana amava nje, siza kukwazi nokuba sibe nezimvo esinazo malunga nezona ndlela zinokuba ngawona maqili aziinkunzi kuphuhliso lwesigama, ngakumbi ngokuphathelele kumba wamagama emboleko endaweni yawemveli. Intsebenziswano kwiilwimi, efana namava ale indibano yocweyo, inika ithemba lokuba kungavela ukuqondakala nzulu kweendawo ekufanwayo ngazo, ngokunjalo nokunabiseleka kwesigama kwiilwimi ezisondelelene kakhulu ngemfano. Umntu angade atsho nokuthi kwixa elizayo kungade kube lula nokuba notshintshiselwano ngeembalo zemfundo ephakamileyo nangezincedisizokufundisa, phakathi kwesiXhosa nesiZulu.

Xa ndiqukumbela, amava ethu ngophuhliso lwesigama anako ukuba ziziphembelo zokukhawulezisa ukusetyenziswa kweelwimi ezininzi eRhodes. Inkqubo yethu entlangothi ninzi ebandakanya abavela kwiinkalo

ngeenkalo zemfundo nevelela inxaxheba iye yafumana inkxaso kwiziphathamandla nakubafundi, kunjalo yatsala umdla nakwabamajelo eendaba nakwabangabahloli kwimfundo ephakamileyo. Sikholelwa ekubeni loo nto igxininisa inxaxheba yamaphulo ophuhliso lwesigama kumaziko emfundo ephakamileyo ekukhuthazeni ukusetyenziswa kweelwimi ezininzi. Loo malinge angaba negalelo ekulweni nolunye lwezimvo eziphambili ezixhasa ukuchwethelwa bucala kweelwimi zesiNtu kwimfundo ephakamileyo: uliliselolungenabunyani ngokunqongophala kwesigama esifanelekileyo.

10. Compiling the trilingual terminology lists across disciplines at Stellenbosch University

Pumlani M. Sibula

This paper reports on terminology work at the Unit for isiXhosa (UXF) in the Stellenbosch University Language Centre. The paper is devoted to all the practical activities leading to the final publication of terminology lists, such as the tasks of terminologists, the challenges they face, the skills they require in order to accomplish those tasks and some of the strategies particularly employed at UFX. The role of other stakeholders in terminological activities will also receive attention, as terminology is an interdisciplinary field. Of particular significance is the attempt to contextualise terminology activities within the South African national language policy, which clearly promotes multilingualism. More generally, the paper indicates a strong interaction between terminological practice and the general theory of terminology.

Theory of terminology

Sager identifies and develops three dimensions of the theory of terminology, namely:

- the cognitive dimension,
- the linguistic dimension, and
- the communicative dimension.

While the above constitute the key elements of a terminological theory and provide general principles and guidelines for terminologists, it should

be noted that there are other factors which influence the development and application of the general theory from one country to another. This paper is therefore produced in the context of scholarly observations by reputable language practitioners and academics in the field of terminology. The next section of this paper shows that terminological work at UFX is not just an institutional vocation but a nationally motivated activity.

Purpose/motivations for terminological compilation at Stellenbosch University Language Centre

By establishing the UFX in 2003, Stellenbosch University has responded to the demands of multilingualism as explicitly articulated in the Constitution of the Republic of South Africa. The Constitution recognises 11 official languages, including the indigenous African languages which were formerly marginalised during apartheid. The recognition of indigenous languages requires that they be developed so that they can be used efficiently in various social, economic and political activities in a formal way. As Alberts (1999: 19) states, 'Terminology is a strategic resource... Through the use of correct terminology, the effective scientific and technical communication skills of all the citizens are developed'. Stellenbosch University wishes to contribute to the development and promotion of isiXhosa as one of the official indigenous languages in the Western Cape Province. In a particular way, the University endeavours to develop isiXhosa as an academic language, which also creates opportunities for its further use in general.

In this endeavour, terminology lists have already been published for the departments of **Sociology, Social Work, Psychology** and **Law** at Stellenbosch University. The terminology list for the faculty of **Economic & Management Sciences** [which comprises: Accounting, Business Management, Economics, Industrial Psychology, Information Systems, People Management, Public-Development Management, and Statistical Methods] is being finalised for publication towards the end of this year. The compilation of these terminologies was done with first-year isiXhosa students in mind as targets users, specifically, to help them to understand Afrikaans and English terms in these areas of study, thereby supporting them. These lists are also aimed at widening the scope of understanding, so that these students are afforded the opportunity to learn and understand

these technical terms through their mother-tongue.

The terminological products of UFX may therefore rightfully be regarded as LSP or specialised dictionaries, except that viewing them from a strictly lexicographic point of view will require the inclusion of more data categories.

The methodology employed by UFX

In collecting the data, the terminologist, who is the head of UFX, consults subject field experts who are the heads of departments at the university and requests terminological data for the envisaged project. This data consists of term-lists representing the key concepts in the respective subject areas using the English language. The subject-specialists recommend some senior students for compiling the lists under their supervision. The terms are also provided with English definitions. On completion these terms with their definitions in English are forwarded to the UFX. Before anything else is done, confirmation is obtained that the English concepts and their definitions have been quality controlled by the concerned subject-specialists. After receiving such confirmation, the lists are sent to translators who translate the lists into isiXhosa and Afrikaans. These translations are done with due cognisance of the linguistic theory of Catford (1965) which states that a translation should have the same effect on a target language (TL) reader as the source language would have had on a source language (SL) reader.

The translated lists are sent electronically to the subject specialists who are the lecturers of the departments concerned. After the necessary corrections have been made, these lists are sent for the second time to the language specialists for final editing and proofreading – checking of orthography, spelling, punctuation, etc. The terminology lists are then entered into the UFX database. Finally, they are converted into PDF files, and the cover pages are designed and sent to the printers. Once the lists have been printed in a booklet format they are officially presented to the relevant departments.

Each department decides how to market its terminology list. For example, the Sociology terminology list is published on the department's website, whereas Social Work decided to advertise its terminology list in a specialised journal of the Social Work fraternity throughout South Africa and Namibia.

Term-creation strategies

In the compilation of these technical lists the major term-creation strategies employed were **coining** and **transliteration**. However, the work of the terminologist does not only involve creating terms, in some cases terms are there and the terminologists simply have to correct the terms and ensure that there is a substantial degree of equivalence between the languages concerned.

Coinages

Coinage is defined as '... the inventing of new words, phrases or expressions. This type of linguistic borrowing is sometimes referred to as neologism' (Mojapelo & Mojela, 2007)¹. Coining therefore is the use of existing linguistic resources to name new concepts (semantic extension).

Transliteration

When coinage or isiXhosa equivalents could not be used for the English terms, transliteration was done as a last resort and adhered to phonological and morphological structures of isiXhosa. These transliterated terms were adapted and naturalised to be identified, written and articulated as isiXhosa terms. Transliteration is defined by Mojapelo and Mojela (2008:1) as the replacement of the letters of one alphabet by the letters of another alphabet with the same phonetic sounds.

Training and collaborations

Terminology as an interdisciplinary vocation is a specialised field of activity with its principles, theories and standards set out by international bodies such as the International Organization for Standardization (ISO). This means that one needs more than linguistic or expert knowledge in order to indicate what is required.

In spite of that training, the interdisciplinary nature of terminological practice still requires that trained lexicographers work in collaboration with subject specialists and other stakeholders. As Alberts (1999: 30) says, 'Terminologists never work in isolation'. In view of this, the UFX has effective partnerships and working relationships with various bodies. The nature of its work requires these contractual ties for collaboration purposes, e.g. with departments and other institutions on and off the campus of Stellenbosch University. It has a networking relationship with the

¹ Paper presented at the 12th Afrilex Conference at the Soshanguve campus, Pretoria in June 2007.

language specialists of the provincial and national bodies, which through their professional service help with translation, proofreading and editing. Collaboration ensures that relevance and quality are achieved, thereby ensuring that all three dimensions of terminology, namely the cognitive, linguistic and communicative, are satisfied.

During discussion, Sibula was commended for the work done, and the subsequent publication of the terminology lists. There was general consensus though that some terms in the published materials were surrounded by controversies, and might be offensive to the users of the language. Subject specialists, especially those who speak isiXhosa, also needed to be consulted for clarity of terms, etc. Sibula committed to take into consideration the feedback from workshop in the next edition of the books.

10. Ukuqulunqwa kwezintlu zesigama kuzo zonke iinkalo zezifundo kwiYunivesithi yaseStellenbosch

Pumlani M. Sibula

Eli phepha lisekelwe kumava alo ulifundayo kumsebenzi woqulunqo lwesigama kwiYunithi yesiXhosa kwiZiko leeLwimi kwiYunivesithi yaseStellenbosch. Eli phepha linyathela kuzo zonke iinkalo ekugqithwa kuzo ukuya kufika kushicilelo lokugqibela lwezintlu zesigama. Ngokwenza oku eli phepha libonakalisa zonke izinto ezibandakanyekayo kumsebenzi wabaqulunqi bezigama, imingeni abajongana nayo, izakhono ekufuneka benazo ekwenzeni le misebenzi nezinye ke iindlela ezingamaqili ekuhanjwa ngazo kule Yunithi. Nenxaxheba yamanye amaqela abandakanyekayo kule misebenzi yoqulunqo lwesigama iza kuqwalaselwa, njengoko kuza kuthi kuvele ukuba uqulunqo lwesigama ngumsebenzi ochaphazela iinkalo ngeenkalo zezifundo ezahlukeneyo. Eyona ndawo ibaluleke kakhulu kukuba iphepha eli liya kungqamanisa umsebenzi woqulunqo lwesigama nomgaqo-nkqubo wolwimi waseMzantsi Afrika, okukhuthaza ngkethe gca ukusetyenziswa kweelwimi ezininzi, nobonakalisa unxulumano olukhoyo phakathi kokwenziwa kuqulunqo lwesigama neenkcazo-bungcali ezimalunga nesigama ngokubanzi.

Inkcazo-bungcali ngesigama

USager uvelisa aphuhlise iinkalo ezintathu kwinkcazo-bungcali ngesigama, ezizezi:

- inkalo ephathelele kwingcinga,

- ephathelele kulwimi, kunye
- nephathelele kuqhagamshelwano.

Nakubeni ezi nkalo zingentla apha zingoyena ndoqo wenkcazo-bungcali ngesigama, kwaye zinika izimiselo nezikhokelo ezinokulandelwa ngabaqulunqi besigama, kuyafuneka ukuba kuqatshelwe sukuba zikhona nezinye izinto ezinefuthe kuphuhliso nokusetyenziswa kwale nkcazo-bungcali izinokhuti zithande ukwahlukana kumazwe ngamazwe. Ngoko ke eli phepha lisekelwe phezu kweembono zobungcale zoosozilwimi abaziwayo nabahlohli kule nkalo yoqulunqo lwesigama. Icandelo elilandelayo kweli phepha libonakalisa ukuba umsebenzi woqulunqo lwesigama kwiYunithi yesiXhosa asingomsebenzi ujolise nje kuphela kwiziko eli, koko ukwathundezwa nakoko kuyimfuneko kwilizwe eli.

Iinjongo nesiseko somsebenzi woqulunqo lwezintlu zesigama kwiZiko leeLwimi kwiYunivesithi yaseStellenbosch

Ngokuseka iYunithi yesiXhosa ngo-2003, iYunivesithi yaseStellenbosch ilisabele ikhwelo elihlatywa ngokuvakalayo kuMgaqo-siseko weRiphabliki yoMzantsi Afrika. Lo Mgaqo-siseko ubeka iilwimi ezili-11 njengeelwimi zaseburhulumenteni, kubandakanywa neelwimi zemveli ezazifudula zisingelwe phantsi ngexesha lolawulo localu-calulo. Oku kubandakanywa kweelwimi zemveli kufuna ukuba maziphuhlise, khona ukuze zikwazi ukusetyenziswa ngokufezekileyo kwiinkalo ngeenkalo zentlalo, ezoqoqo-sho, nakwezopolitiko ngendlela esesikweni. Njengoko esitsho uAlberts (1999: 19), 'Isigama sibubutyebi obuliqili... Ngokusetyenziswa kwesigama esichanekileyo nesicikizekileyo kwezenzululwazi nakwezobugcisa, izakhono zabo bonke abemi ziyaphuhliseka'. Iyunivesithi yaseStellenbosch inomnqweno wokwenza igalelo ekuphuhliseni nasekuphakanyiseni kwesiXhosa, njengolunye lweelwimi zemveli ezizilwimi zaseburhulumenteni eNtshona Koloni. Ngendlela ethile iyunivesithi le izama ukuphuhlisa isiXhosa sikhule siye kufika kwizinga lokuba singasetyenziswa kwimfundo ephakamileyo, into leyo ke eya kusivulela namanye amathuba okusetyenziswa kwezinye iinkalo ngokubanzi.

Kweli linge ke, bekumana kushicilelwa isigama esilungiselelwe icandelo le *Sociology*, ele *Social Work*, nele *Psychology* kwakunye nelo *Mthetho* phaya kwiYunivesithi yaseStellenbosch. Uluhlu lwesigama secandelo le *Economic*

& *Management Sciences* [ekukho kulo la macandelwana: ele *Accounting*, ele *Business Management*, ele *Economics*, ele *Industrial Psychology*, ele *Information System*, ele *People Management*, ele *Public-Development Management*, kunye nele *Statistical Methods*] sele lukunjelwe ukushicilelwa phaya ekuyeni kuphela kwalo sikuwo inyaka. Uqulunqo lwezi zintlu beluqhutywa lujoliswe kubafundi besiXhosa abakunyaka wokuqala, njengabo baza kusisebenzisa esi sigama, ngakumbi ekubenzeni bawaqonde amagama esiNgesi nawesiBhulu kwezi nkalo zezifundo, into ke leyo ebibancedise ibaxhase. Ezi zindlu zesigama kananjalo zikwajoliswe nasekwandiseni imihlaba yokuqonda, khona ukuze aba bafundi banikwe ithuba lokuba bafunde bawaqonde ngolwimi lwabo lweenkobe amagama anobuntsompothi asetyenziswa kwiinkalo ezithile.

Isigama esiqulunqwe kwiYunithi yesiXhosa ngoko ke, akungebi yimpiso ukusithatha njengesigama esineenjongo ezithile ezizodwa (LSP) okanye kwizichazi-magama ezizodwa, ngaphandle ke nje kokuba xa zinokujongwa ngokweemfuneko zophuhliso lwezichazi-magama, kungafuneka ukuba kubandakanywe nezinye iinkcukacha.

Indlela yokusebenza esetyenziswa kwiYunithi yesiXhosa

Xa kuqokelelwa iinkcukacha, umqulunqi wesigama oyintloko yeYunithi yesiXhosa uye athethane nabo baziingcali abaziiintloko zamacandelo eyunivesithi, acele isigama esiphathelele kuloo projekthi icetywayo. Esi sigama sibandakanya loo magama angawona aphambili kwinkalo yesifundo leyo enikwe ngesiNgesi. Iingcali kwizifundo ezo ziye zikhethe abafundi abasebephambili bokuqulunqa izintlu ezo phantsi kweliso lazo. La magama anikwa ehamba neenkcazelo ezingesiNgesi. Zisakuba zigqityiwe ziye zithunyelwe ke kwiYunithi yesiXhosa. Phambi kokuba kwenziwe nantoni na kuye kuqinisekise ukuba la magama neenkcazelo ahamba nazo zijongisise ziingcali zezo zifundo zichaphazelekayo. Lusakuba lufunyenwe olo qinisekiso ezi zintlu ziye zithunyelwe kubaguquli abathi ke baziguqulele esiXhoseni nasesiBhulwini. Olu guqulelo lwenziwa kuthathelwe ingqalelo inkcazo-bungcali engolwimi kaCatford (1965) ethi uguqulelo kufuneka ifuthe lwalo kulowo ulufundayo lifane nakulowo ufunda olu lwimi luguqulelwayo.

Kwakhona ke ezi zintlu ziguqulelweyo zithunyelwa ngekhompyutha kwiingcali zezo zifundo ezingabahlhli kuloo macandelo achaphazelekayo.

Zisakuba zenziwe ezo zilungiso zifuna ukwenziwa ezi zintlu ziphinda zisiwe okwesibini kwiingcali zeelwimi ukuze zizihlele zizicokisise – zijonga iindlela zokubhala, upelo, iziphumlisi, njl. Emva kweli ke inyathelo ziye zingeniswe kuvimba weYunithi yesiXhosa. Ekugqibeleni ke zenziwa iifayili ze-pdf, kuze ke kuqulunqwe amaphepha angaphandle, zithunyelwe kubashicileli. Zisakuba zishicilelwe ezi zintlu zaba yincwadana ziye zithunyelwe ngokus-esikweni kuloo macandelo achaphazelekayo.

Icandelo ngalinye ke liye ligqibe ngokuba liza kulubhengeza njani na uluhlu lwalo. Umzekelo – uluhlu lwesigama se*Sociology* lushicilelwa kwi-*webct* yeli candelo, ngelixa ele*Social Work* lona lagqiba ekubeni uluhlu lwalo lulubhengeze kwijenali yabakweze*Social Work* kulo lonke eli laseMzantsi Afrika naseNamibia.

Iindlela eziliqili ekuyilweni kwesigama

Ekuqulunqweni kwezi zintlu zesigama seenkalo ezizodwa ezona ndlela ziliqili ziphambili ziye zasetyenziswa **luyilo noboleko**. Kambe ke, umsebenzi womqulunqi wesigama awuphelelanga ekuyilweni kwamagama; kwezinye iimeko amagama akhona, ize ke into eyenziwa ngumqulunqi wesigama ibe kukuwalungisa la magama nokuqinisekisa ukuba iintsingiselo ziyangqinelana phakathi kwezo lwimi zichaphazelekayo.

Uyilo

Ngokwephepha likaMojapelo noMojela elafundwa kwi-12th *Afrilex Conference* eyayiseSoshanguve, ePitoli ngoJuni 2007, uyilo ‘...kukuqwetywa kwamagama amatsha, amabinza amatsha nezithetho ezitsha. Olu hlobo lokubolekwa kolwimi luye maxa wambi lubizwe ngokuba lubumbo lwamagama amatsha’. Uyilo ke ngoko kukusetyenziswa kolwimi olusele lukho ekuchazeni izinto ezintsha (unabiso lwensingiselo).

Uboleko

Xa kungekho magama akhoyo esiXhoseni anokuhanjelaniswa namagama esiNgesi okanye kungekho nanokuyilwa, kuye kwabhenelwa ekubolekeni, kwaza ke kwahlalwa kwindlela yokubhala neyokuma kwamagama esiXhosa. La magama emboleko aye amkelwa njengamagma esiXhosa, abhalwa ngesiXhosa, abizwe ngesiXhosa. Uboleko ngkukaMojapelo noMojela (2008:1) kukusetyenziswa koonobumba bealfabhethi ethile endaweni yabenye ialfabhethi ababizeka ngokufanayo.

Uqeqesho nentsebenziswano

Uqulunqo lwesigama ngumsebenzi onabela kuzo zonke iinkalo zezifundo ezahlukeneyo, nobekelwa izimiselo, iinkcazo-bungcali nemigangatho yemibutho yehlabathi, efana nombutho oyi-*International Organization for Standardization (ISO)*. Le nto ke ithetha ukuba ulwazi ekufuneka enalo umntu ukuze akwazi ukukuchaza okufunekayo, aluphelelanga nje kulwazi lolwimi nasebungcalini.

Nakubeni kukho olo qeqesho, le meko yomsebenzi woqulunqo lwesigama yokunabela kwiinkalo zonke ifuna ukuba abaqulunqi besigama mabaqhagamshelane neengcali kwiinkalo ngeenkalo zezifundo nabamanye amaqela achaphazelekayo. Njengokuba uAlberts (1999: 30) esithi, ‘Abaqulunqi besigama abaze basebenze bodwa’. Ngenxa yoku ke iYunithi yesiXhosa inobuhlakani nobudlelane bokusebenza nemibutho emininzi. Uhlobo lomsebenzi wayo luyawafuna la makhonkco oqhagamshelwano ngentsebenziswano, umzekelo namaandelo kunye nezinye izigqeba apha ngaphakathi kwiYunivesithi yaseStellenbosch, nangaphandle. Inamakhonkco oqhagamshelwano neengcali zolwimi kwizigqeba zamaphondo nezesizwe, ezithi ngoncedo lwazo lobungcali zincede ngoguqulelo, ukufundiswa nangokuhlela. Intsebenziswano iqinisekisa ukuba oko kwenziweyo kufanelekile, kwaye kusemgangathweni, into ke leyo eqinisekisa ukuba zontathu ezi nkalo zoqulunqo lwesigama zivelelwa ngokwanelisekileyo.

USibula, ngexesha lengxoxo, uye wanconywa ngomsebenzi wakhe, kwakunye nokupapashwa kweencwadi eziqulathe isigama esiphuhlisiweyo. Kuye kwavunyelwana ngokubanzi ukuba esinye sesigama asithandeki kwaye sinokuphikiswa ngabo basebenzisa ulwimi kwaye singabakhubekisa abantu abathile. Kuye kwacetyiswa ukuba iingcali zesifundo, ingakumbi ezo ulwimi lwazo lusisiXhosa, kufuneka kuthetha-thethwane nazo ngenjongo yokucacisa esi sigama. USibula uye waphendula ngelithi uya kuzinika ingqwalasela iizmvo ezivele kule ntlanganiso kuhlelo lwesibini lwezi ncwadi.

11. Challenges of creating terminology in isiZulu

Gugu Mkhize

The experience of Nursing, Dental Assisting & Psychology at UKZN and DUT

Terminology as both an academic and vocational field is bound to have external influences that necessitate attention. This implies that the field of terminology has its own politics, which are both internal and external. The development of international relations worldwide, terminology has for various reasons gained its status as a force to be reckoned with in language discourse. The aim of this paper is to focus on the dilemma that is facing language practitioners in South African modern days. Practitioners seem to have little or no knowledge about terminology development as an academic subject or professional career. Madiba (2003) and Mtintsilana Morris 1988 believe that language practitioners are always posed with a challenge when translating terminology into South African languages like isiZulu either to give an isiZulu equivalent or a transliterated equivalent. Language practitioners work with the fear of language purists, who believe there should be an isiZulu equivalent for all terms. The relevance of terminology theories becomes prevalent to those who are familiar with them, and become a nightmare to those who have no background about existing strategies to deal with a challenge.

11. Izinselele ekwakheni amatemu esiZulu

Gugu Mkhize

Isibonelo ngokwatholakala emkhakheni wobuhlelengikazi, owokulekelela ukwelashwa kwamazinyo kanye nowokusebenziswa kwengqondo e-UKZN nase-DUT

Ulwazimatemu njengomkhakha wokufunda nowomsebenzi luphoqelekile ukuba nemithelela eqhamuka ngaphandle edinga ukuthi inakwe. Lokhu kuchaza ukuthi umkhakha wolwazimatemu unezombangazwe zawo eziqhamuka ngaphakathi nangaphandle. Ukuthuthuka kwezobuhlobo nokuxhumana kwamazwe omhlaba sekwenze ukuthi ulwazimatemu lube yingxenyane enamagalelo abonakalayo ezindabeni zezolimi. Inhloso yaleli phepha ukubukisisa indida ebhekene nabasebenzi bolimi eNingizimu Afrika ezinsukwini zanamuhla. Abasebenzi bolimi abaningi kutholakala ukuthi banolwazi oluncane kakhulu, uma benalo, ngokuthuthukiswa kwamatemu njengesifundo solwazi noma njengomkhakha wezomsebenzi. UMadiba (2003) noMtintsilana Morris (1988) bakholelwa ngokuthi abasebenzi bolimi bahlala bebhekene nenselele uma behumusha amatemu bewasa ezilimini zase-Afrika ezifana nesiZulu. Inselele eyokuthi kufanele umuntu anikeze igama lesiZulu yini noma aboleke. Abasebenzi bolimi benza umsebenzi wabo besovalweni ngenxa yalabo bantu abakholelwa ekuthini ulimi kumele lube msulwa; abazi ukuthi itemu netemu olimini okusetshenzwa ngalo kufanele libe nelesiZulu elinguzakwabo. Imithetho yolwazimatemu iba nosizo kuphela kulabo abayaziyo ukuthi ikhona Kulabo abangenalo ulwazi ngezindlela ezikhona zokubhekana nenselele kuba yinkinga enkulu.

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