Harnessing Digital Technology in the Revitalisation of the Linguistic Heritage of Zimbabwe: Possibilities and Challenges

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Research Article

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ABSTRACT

Indigenous Zimbabwean languages have through history endured marginalisation in terms of functional status in government administration, law, education, business, the media, science and technology. Though such marginalisation may be traced back to the colonial ‘inheritance situation’ (Bambgbose 1991), a solution to it may lie to some extent in the use of digital technology. It is argued that digitisation provides a propitious window to reverse language marginalisation or to intensify language revitalisation efforts where they have already been initiated. This can be realised through digitising all literary and non-literary works in the indigenous languages, building corpora of indigenous languages, using databases of indigenous languages to write dictionaries, filing other art work such as theatre and drama, music, poetry and film all in digital format. Notwithstanding the potential of digital technology, it was found out from interviews and web analyses that efforts to harness the technology in language revitalisation remain stunted. This paper also argues that the expense of the gadgetry needed to run the digital technology, negative attitudes towards indigenous languages, lack of resources to carry out language documentation field trips, lack of innovative intellectuals and personnel skilled in digital technology stand in the way of efforts to restore and expand the status of the indigenous languages of Zimbabwe.

Key terms: Digitisation, information society, language revitalisation, language promotion, indigenous languages, corpus development.

1. INTRODUCTION

The history of linguistic marginalisation that all the indigenous languages of Zimbabwe (see Table 1 for the full list of the languages) have experienced has left the languages vulnerable to endangerment and death. The grim possibility of endangerment and death is indeed real if the revelation by Crystal (2000) that only 600 of the world’s over 6000 languages are safe from extinction is anything to go by. Moreover the unrelenting global advance of English and its dominance in almost all spheres of Zimbabwean life should give linguists and custodians of indigenous languages a sense of foreboding. As it stands now, it would be naïve to expect a change of fortune for English, at least in the foreseeable future (Ndhlovu, 2009; Kadenge, 2010). So, ways of promoting the indigenous languages alongside English would be a desirable, pragmatic and achievable goal for the Zimbabwean community. Being an invaluable cultural heritage, it would be logical for the nation to take steps that will help protect the indigenous languages. In Makanda’s (2013) view, indigenous languages play a critical role in culture, economics and politics and therefore need promotion and preservation. Ndhlovu (2008) also emphasises the need to improve the visibility of Africa’s multilingual heritage by teaching and researching on the languages of Africa. There are however some scholars who argue that there is nothing wrong in allowing some languages to die since this is only natural and since it also improves communication by ensuring that only few strong languages survive (Crystal, 2000).

This paper sets out to interrogate the role that digitisation (the process of migrating to digital format in terms of recording and storage of text) may play in the war to document, preserve and promote the indigenous languages of Zimbabwe. Having given some background in Section 2 and methodology in Section 3 below, the paper illustrates in Section 4 the potential that digitisation carries in promoting the local languages of Zimbabwe. Section 5 focuses on the challenges that may stand in the way of implementing digitisation programmes and the ways in which the challenges may be dealt with. Section 6 concludes the discussion.
2. BACKGROUND

2.1 Language marginalisation and endangerment in Zimbabwe

It should be made clear from the outset that a language marginalised at some point in history is likely never to recuperate fully unless drastic intervention is taken. In Mutasa's (2006:83) words, aggression is a paramount ingredient without which the development and promotion of African languages is tantamount to being lip-service. Once a language is marginalised, it is handicapped and once handicapped, it will be difficult to take it to perform high status functions in a diglossic community, thus the language remains trapped in a vicious cycle of ominous extinction and tantalising promise for promotion. This description accurately fits the story of many indigenous Zimbabwean languages: majority and minority; national and regional; written and unwritten though Lewis et al (2013) are of the view that only one language (Tshwawo) is in trouble of endangerment in Zimbabwe.

Regarding functional distribution, the Zimbabwean language situation is an essentially diglossic one (Chimhundu, 2002) that is, consisting of language or language varieties with clear functional separation, one carrying out high (H) functions and the other carrying out low (L) functions (Wardhaugh, 1998:87). According to Hudson (1980) the variety that carries out the H functions is the prestige variety, with advanced grammars, dictionaries and standardised texts and a literary tradition. Usually learnt in formal situations, there is also a belief that the H variety is more beautiful, more logical and more expressive. For this reason, the H variety is usually used for religious sermons, formal lectures, in parliament, for broadcasting, political speeches and editorials in newspapers. However, it must be emphatically pointed out here that the belief that some languages and language varieties are more beautiful, more logical and more expressive than others is not based on scientific fact.

In Zimbabwe, English is the official language that accomplishes the H functions including governance, parliamentary debate and legislation, courts of law, education, technology, trade and industry and mainstream media. In order to promote wide communication and understanding, the translation of important documents is done although the indigenous languages, which usually tend to dominate family and social discourse, are also widely used in the workplace.

On the other hand, the variety that carries out the L functions lacks prestige and literary tradition, has fewer grammars, standardised texts and dictionaries and is believed to be less beautiful, logical and expressive. Thus this variety is reserved for low prestige functions such as conversations with familiar or household servants, in soap operas and other popular programs on television or radio (Hudson, 1980).

In Zimbabwe, the indigenous languages carry out the L functions though as noted in the above paragraph, these languages are also used in the workplace. Table 1 below lists the languages that are believed to be spoken in Zimbabwe. The list has been adapted from the constitution of Zimbabwe which was signed into law in May 2013 Note that Hachipola (1998), Gordon (2005) and Ndhlovu (2009) bear an extended list of about 20 languages. The use of the indigenous languages predominantly for L functions testifies to the marginalisation of these languages.

The marginalisation of the local languages of Zimbabwe can be traced back to the process of colonisation and its ancillary language policies that sidelined the indigenous languages while propping up the status of English. Various explanations for such policies could be given but the net effect of the policy decisions was the downgrading of the indigenous languages in terms of development and functions.

The advent of political independence in the country did not help matters much. The new government just reconstituted the colonial language policies that perpetuated the dominance of English at the expense of local languages (Mkanganwi, 1987). As recently as 2010, researchers were still decrying the reality that “although African governments are advocating for the use of

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<th>Indigenous</th>
<th>Non-indigenous</th>
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<td>Chewa</td>
<td>16. English</td>
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<td>Chibarwe</td>
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<td>Kalanga</td>
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<td>Shona</td>
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<td>Venda</td>
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<td>Xhosa</td>
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African languages, they have an inherent phobia of isolation from the global village” [sic] (Mavesera, 2010: 72).

Sectors such as the media, government administration, commerce, science and technology and law are among those in which local languages are given pitance recognition but one most critical area in which the marginalisation of the indigenous languages of Zimbabwe is demonstrated is education.

English was implanted and entrenched both as a medium of instruction (MOI) and as an official language during the 90-year-long domination by the British, that is 1890 – 1980 (Ngara, 1982; Magura, 1985; Schmied, 1996; Mlambo, 2009; Ndhlouv, 2009; Fitzmaurice, 2010; Kadodo et al., 2012). Mufanechiya and Mufanechiya (2011: 194) observe, citing Zimbabwe Government (1999) that the marginalisation of Zimbabwean indigenous languages from the classroom began with the Judges Commission of 1962 which promulgated the policy that English was supposed to be used in the teaching of other subjects. Subsequently, English consolidated itself as the MOI in all schools though Shona and Ndebele were also taught from Grade 1 to university level but only as subjects.

In addition to being the official language of business, English was also a compulsory subject and a requirement on all school certificates (Zimbabwe Government, 1999:159). However, timetable slots for Shona and for Ndebele were fewer than those for English. This resulted in the relegation in status and emergence of a negative attitude towards these languages/subjects and those that learnt and taught them. Other minority languages such as Venda, Sotho, Shangani, Kalanga, Nambya and Tswana were only taught up to Grade 3 (Hachipola, 1998; Mumpande, 2006; Nyika, 2008).

Attempts by the African Languages Panel to introduce two separate subjects i.e. language and literature for Shona and Ndebele in 1987 were also rejected on grounds that “this would overload the timetable and that the teaching/learning materials and teaching personnel would not be available” (Zimbabwe Government, 1999:158). This explains why these two components are not treated as separate subjects to date.

It is evident from these apparent inconsistencies that the government’s ability to draw up or hail educational policies emanating from the grassroots is not matched by the courage to implement them. However, such vacillation and hesitation by most governments could be a result of structural impediments (Schiffman, 1992; Davis, 1999) that have been built into language policy itself. Structural impediments refer to the deliberate ways in which a language policy is crafted to equip it to safeguard the status of specific languages from being “overthrown” by other languages competing for that status.

Regarding the teaching of minority languages, Mumpande (2006) observes that all the indigenous minority languages in Zimbabwe were taught up to Standard 4 (i.e. Grade 3 in terms of post-independence Zimbabwe education structure) prior to independence. The teaching of Nambya and Sotho stopped in the 1950s and late 1960s respectively following the government’s recognition of Shona and Ndebele as official languages. The teaching of Tonga also stopped in 1976 due to sanctions imposed on the Ian Smith regime by Zambia. The sanctions led to a halt of the exchange and importation of Tonga literature from Zambia, where a significant portion of the population speaks that language. When these languages were dropped, their speakers protested against the action. The discontent of these speakers also led to the formation of pressure groups including speakers of Tonga, Nambya, Kalanga, Shangani, Venda and Sotho. These groups were formed to spearhead the struggle for the restoration of the linguistic rights of the ‘minority’ language speakers.

At independence, the new black government nevertheless did not move quickly to reinstate the teaching of the minority languages, provoking feelings of anger and bitterness in the ‘minority’ language groups. The words of one Malaba of the Kalanga Language Committee, in a letter to the then Minister of Primary and Secondary Education, graphically captures the ire:

We were made to believe that the war of liberation was against suppression, oppression, discrimination and white minority domination over the majority blacks. But after the attainment of independence, the very government we fought to install turned around and labelled us ‘minority groups’. We are very bitter about this dehumanisation and disparagement in the land of our ancestors (Mumpande, 2006:14).

The concerns of these minority language groups indicate that their motives for the learning and teaching of their languages are not only educational but also cultural and ideological. It is part of their linguistic rights to learn their languages. Nyika (2008) details the efforts taken by the ‘minority’ language groups in Zimbabwe to secure these linguistic rights.

In response to continued activism of the ‘minority’ language groups, under VETOKA (a ‘minority’ languages and cultures promotion society comprising representatives from the Venda, Tonga and Kalanga groups), the government introduced the teaching of the ‘minority’ languages in 1985 and set up a publishing company (VETOKA Publishing Company) to service the rest of the minority language groups. VETOKA was succeeded by the Zimbabwe Indigenous Languages Promotion Association (ZILPA), formed in March 2001. ZILPA continued to lobby government to promote minority languages beyond teaching them up to Grade 3.
Eventually, as if ostensibly succumbing to pressure from ZILPA, the government revisited the 1996 languages in education policy and garnished it with modifications captured in the following circular produced by the Ministry of Education:

January 2002
SECRETARY’S CIRCULAR NUMBER 1 OF 2002
POLICY REGARDING LANGUAGE TEACHING AND LEARNING

1. MINORITY LOCAL LANGUAGES

These are languages that are spoken by relatively small indigenous groups in various parts of Zimbabwe. They include, but are not restricted to Kalanga, Tonga, Venda, Nambya and Sotho. These languages are currently being taught up to Grade 3. From January 2002 the languages will be assisted to advance to a grade per year until they can be taught at Grade 7. The table below shows how this will happen:

<table>
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<tr>
<th>GRADE</th>
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<tr>
<td>Grade 3</td>
<td>Already in place</td>
</tr>
<tr>
<td>Grade 4</td>
<td>January 2002</td>
</tr>
<tr>
<td>Grade 5</td>
<td>January 2003</td>
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<td>Grade 6</td>
<td>January 2004</td>
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<tr>
<td>Grade 7</td>
<td>January 2005</td>
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The annual progression of the classes will enable the necessary inputs to be made in advance. This includes teachers, classrooms and materials. By the time these languages are offered at Grade 7 in 2005, new arrangements will be made for their further development. In other words, we will cross this particular bridge when we come to it (Source: Nyika, 2008).

This provision was followed by a fuller amendment of Section 62 of the Education Act of 1996. This amended act was dubbed “Education Amendment Act, 2006”, a copy of which has been reproduced below:

Languages to be taught in schools;

1) Subject to this section, all the three main languages of Zimbabwe, namely Shona, Ndebele and English, shall be taught on an equal-time basis in all schools up to Form Two level.

2) In areas where indigenous languages other than those mentioned in subsection (1) are spoken, the Minister may authorise the teaching of such languages in schools in addition to those specified in subsection (1).

3) The Minister may authorise the teaching of foreign languages in schools.

4) Prior to Form 1, any one of the languages referred to in subsection (1) and (2) may be used as the medium of instruction depending upon which language is more commonly spoken and better understood by the pupils.

5) Sign language shall be the priority medium of instruction for the deaf and hard of hearing.

It has been interesting to check the uptake of the provisions of Circular 1 of 2002 as well as of the Education Amendment Act, 2006 in the real school situation. So far indications are that the policy is not being enforced with adequate vigour. For example, no school has been reported to teach the 'minority' languages beyond Grade 7 by 2006 as anticipated, though Tonga is reported to have made steady progress to date. In addition very few schools teach in Shona and Ndebele, and English is still the preferred MOI in most primary schools despite the fact that the schools have leave to use Shona or Ndebele as MOI. Kadodo et al., (2012) detail some of the constraints militating against a changeover to indigenous languages as MOI.

Notwithstanding the slow pace at which the government is moving to promote the indigenous languages, Great Zimbabwe University, (where we teach) has introduced undergraduate courses in TshiVenda (Venda) and XiChangana (Shangani) with assistance from the University of Venda (South Africa). This has seen the training of a number of potential teachers for Venda and Shangani though the teachers are not sometimes deployed to the regions where they are needed. There are also plans at Great Zimbabwe University to take aboard other indigenous languages such as Tonga, Nambya, Kalanga, among others.

The slow pace by governments, particularly in Sub-Saharan Africa, in implementing MOI policies is also cited by Obeng (2002). He argues that volatile socio-political consequences that may accompany forced language planning (forced on government from below) is the key factor that explains the governments’ tendencies not to embark on too strong a policy (Obeng, 2002:76). Ferguson (2000:100) posits that in fact the African elite “have a vested interest in maintaining English as an official language and as a medium of education because they partly owe their position to it and it functions as an effective mechanism for the elite to reproduce itself”.

www.gjournals.org
It may be plausible in the end to argue that once the indigenous languages are not given a realistic chance in the school system, their future in other sectors is already doomed. This is how the languages fail to make it in commerce, law, media, science and technology and international relations. Consequently, the speakers of those languages see no value in learning or identifying with the languages. However the information age, thriving on the use of digital technology has ushered an opportunity for the languages to regain their functional status, though this may not be in the high status functions. The following section defines digitisation and discusses how local languages may exploit digital technology to build upon the efforts that have been made so far in the revitalisation of indigenous languages.

2.2 Defining digitisation and scoping its potentialities

Digitisation is the process that converts materials from formats that can be read by people (analogue) to a format that can be read only by machines (digital). In this format, information is organised into discrete units of data called ‘bits’ that can be separately addressed usually in multiple-bit groups called ‘bytes’. This is binary data that computers and many other devices with computing capacity such as flatbed scanners, digital cameras and digital hearing aids can process (Manaf, 2007). Manovich (2001) identifies five so called general “principles” that characterise digital media: numerical presentation, modularity, automation, variability and transcoding (the ability to move information from one medium to another). The main motives for digitising are to enhance access and improve preservation. This is so because digital products allow users to search collections rapidly and comprehensively from anywhere at any time.

According to Manaf (2007) digitisation initiatives should focus on the means of selecting, collecting, transforming from analogue to digital, storage and organisation of information in digital form and then making it available for searching, retrieval and processing via computer networks. This implies that information in local languages should be selected, transformed, stored and retrieved in digital formats and thereby making that information available to many users.

Beagrie (2001) notes that in the pre-digital (print) environment the processes of creation, reproduction and distribution were separate and different; now, digital technology tends to erase distinctions between the separate processes of creation, reproduction and distribution that characterised the classic industrial model of print commodities. In fact digitisation has the potential to shorten the production, distribution, and consumption processes of information in local languages. This implies that digitisation can enhance the production of new works in local languages as well as empowering artists and writers to have control over the distribution of their work. Digitisation is also cost effective; therefore it is cheaper to produce cultural products such as books, music, films etc.

In Zimbabwe digitisation initiatives are being carried out by ALRI but not much is known by the general public about the achievements they have made so far and the extent of the benefits that have accrued from the digitisation of indigenous languages.

It should be noted that the idea of digitisation is basically centred on new Information and Communication Technologies (ICTs) which are also conceived as tools that use languages or as language processing and representation tools (Osborn 2010). In Zimbabwe English language is dominant and well served by ICTs, unlike the majority of the indigenous languages which are still lagging behind in this regard. So the advent of ICTs has been hailed for creating the opportunity to produce and disseminate local content which can be used for educational, administrative or commercial purposes in digital format.

However, digitisation revolves around the process of localisation which has been described as adaptation of user interfaces and digital information to the local modes of communication, culture and standards. Yacob (2004) offers a broad interpretation that defines the object of localisation as the transfer of cultural consciousness into a computer system, making the computer a natural extension of the society’s nerves.

In practice, localisation is both a technical set of approaches and techniques for adapting software and content to particular languages and cultures and more broadly, an enterprise activity that incorporates those technical dimensions, linguistic information planning and organisation necessary to make it happen.

According to Kalay et al (2008) the apparent limitless affordances of digital technologies make them the choice media for the re-presentation, management, and dissemination of indigenous languages.

Digital media can also be harnessed to create cultural content through scanning, modelling, and archiving, to manage that content through powerful search engines and database management tools, and disseminate the content through the World Wide Web to audiences who otherwise might never be able to access it. However, digital media is not neutral: it impacts on the represented information and the ways society interprets it. The represented information can be altered tampered with at anytime thereby raising questions of originality and believability. So presentation affects interpretation. Marshal McLuhan opines that the medium is the message. This implies that the medium has direct implications on the meaning that is derived from the mediated information.

The need to promote local languages using digital technologies can be understood in the context of language as a means of communication. Languages have a socio-economic role similar to that of money in industrial society. While money is used to acquire goods, language is used to acquire knowledge and intangible objects.
goods. Therefore, digitisation becomes handy in providing a necessary means and platform to promote the accessibility and preservation of local languages.

Digitisation encourages the development of content in indigenous languages and to put in place technical conditions to facilitate the presence and use of indigenous languages on the internet. In the context of the information society, digitisation provides content that is relevant to the cultures and languages of indigenous people thereby enhancing development. Digitisation can enable the creation and distribution of content that is relevant to different segments of population, including non-literate, persons with disabilities, disadvantaged and vulnerable groups etc.

Digital computing and the internet – do lend themselves to adaptation in diverse human languages but effort is required and resources to achieve that end. Indeed, ICT is increasingly being put to use in processing, analysing, reading, transcribing and translating an ever widening range of languages. However, indigenous languages are not well resourced, and some have few speakers and are assigned low status or even denigrated.

3. METHODOLOGY

For the research we employed a qualitative research approach. Marshall and Rossman (2006:2) define qualitative research as a broad approach to the study of social phenomena. They state that its various genres are naturalistic, interpretive, ethnographic and increasingly critical and draw on multiple methods of inquiry. We adopted it as its strengths include that issues can be examined in detail and depth. The researcher is also not restricted to specific questions or lists as interviews are in-depth discussions guided by the researcher to yield relevant information. It is also flexible as the framework and direction may be easily revised as new information emerges.

As for the methods of data collection, we made use of interviews, focus group discussions as well as web analysis. We found the method quite relevant considering the nature of the targeted information. Furthermore, we used the semi-structured type of interviews whose advantage is that they are flexible, adaptable and provide direct human interaction that enables the researcher to probe and clarify answers with the respondents, follow-up leads, elaborate on the original response and obtain more data with greater detail and clarity (Schurink, 1990). In this case, our interviews were stakeholders in digitisation of indigenous languages, such as ALRI, language users, as well as committees for indigenous language promotion such as the Shona Language and Culture Association (SLCA). Our questions focussed on the progress made so far, as well as perceptions of the whole digitisation process as a potential tool for the revitalisation, documentation and preservation of indigenous languages.

A focus group is a small gathering of individuals with some common interest or characteristic, assembled by the researcher who uses the group and its interactions as a way of gaining in-depth information on a particular topic (Kartz and Williams, 2002). We considered the method relevant as it allows researchers to obtain perceptions, attitudes, feelings and experiences in a defined area of interest (Krenger, 1988). We used the method to obtain perceptions of various groups including speakers of the various indigenous languages as well as academics. Web-analysis is a method by which websites are assessed in the light of their position on certain pieces of information. In this case efforts were made to find out how much of our indigenous languages have been availed on cites such as Google since the introduction of their digitisation. Such information was considered quite useful as it could demonstrate the feasibility of the exercise.

In all cases, data was either tape recorded or noted down for analysis.

4. RESULTS AND DISCUSSION

As indicated above, to obtain data on the specific affordances that digitisation could give in the revitalisation of indigenous languages as well as the challenges thereof, interviews with ALRI representatives and representatives of indigenous language associations, namely; Shona, Tonga, Xichangana as well as TshiVenda, were conducted. Focus group discussions were also conducted with ordinary speakers of indigenous languages and academics (lecturers, teachers and students) in order to gauge their attitudes towards indigenous languages as well as their experiences of digitisation in the indigenous languages. Web analysis was also carried out to determine the visibility of material in indigenous languages in the digital repository such as the internet as well as institutional repositories. The section below discusses the findings yielded by these methods.

In terms of the role that digitisation was perceived to play in promoting local languages, there were a number of areas that the research respondents pointed out. Digitisation was perceived to play a role in corpus collection, literary and popular arts, and lexicographic work as well as in the preservation of indigenous knowledge systems. Each of these realms of application of digitisation is discussed in detail below.
4.1 Digitisation and corpus collection

In the realm of corpus collection, submissions by ALRI and some academics were that digital technology plays a critical role and that in Zimbabwe, significant inroads in that regard had already been made. From this perspective, it can be asserted that digitisation is not necessarily a new phenomenon in Zimbabwe. It was reported that ALRI had to date amassed millions of words in its corpus in ChiShona and IsiNdebele, and significant sizes of data in Tonga, Nambya, Shangani, and Kalanga that it has worked with, though there are prospects of incorporating more languages.

It should be asserted that it is the activity of corpus collection and subsequent conversion into digital format that forms the backbone of ALRI’s mandate.

This is evident in a response given by one ALRI representative to an interview question:

“ALRI’s vision is guided by its mission statement, which is to research, document and develop Zimbabwean indigenous languages in order to promote and expand their use in all spheres of life. It is dedicated to the research and development of African languages in Zimbabwe and its research agenda focuses mainly on corpus development and maintenance, computational lexicography and language technology applications.”

In certain instances, born-digital material (material that originates in digital format) is also collected. Digital collection has also opened new possibilities in the documentation of ‘marginalised’ languages. The preparation of grammar books, orthography systems, pronunciation guides and dictionaries in the ‘minority languages’ has benefited greatly from digitisation. According to submissions by a representative of the Tonga Language Association, a specific example of digitisation being harnessed in the documentation of marginalised languages was the preparation of the Tonga Grade 7 book for learners which was published in 2011 with the help of ActionAid Zimbabwe. Lexicographic work, which is one of the spheres where the potentials of digitised material can be demonstrated, and was one of the key aims of ALRI, is discussed in 4.3 below.

The ALRI representatives also pointed out that digital corpora are useful both at academic and community level. “Firstly, at the academic level, digitised materials are easier to work with and they can be relied upon as reliable and objective sources of data. They can also be shared easily by researchers geographically located far away from each other, at a very small cost if any. Secondly, at community level, digitised materials can be manipulated to quickly produce tangible products such as books and reference works that in turn benefit and influence communities very fast.” McCarthy and O’Keeffe (2010: 7) make a similar observation when they point out that the practice and study of corpus collection, storage and use, known as Corpus Linguistics (CL) “may be used from an applied perspective in the pursuit of broader research questions in areas such as language teaching and learning, discourse analysis, literary stylistics, forensic linguistics, pragmatics, speech technology, sociolinguistics and health communication.”

4.2 Digitisation and literature

Literature is a form of written art and encompasses plays, poems, short stories and novels. A significant point about literature is that, just like language in general, it carries the culture of a people (wa Thiong’o, 1997). Literature is also a reflection of social life therefore is significantly based on and informed by history. In Selden and Widdowson’s (1993:1) view, great literature is universal and expresses general truths about human life. In addition, literature is also a source of entertainment, an aspect of social life that mirrors the culture of a people. In terms of literature, the research respondents pointed out that it was critical to render all previously written literary works into digital format. “How wonderful will it be to read your Pafunge, your Zvairwadza vasara or your Gwennyambira from your iPad?” said one respondent from the Shona Language Association. The fact that the basic ingredient in all literature is language makes it reasonable to argue that the digitisation of works of literature in the indigenous languages is a sure way to preserve and promote the languages.

Since digital material can be easily shared, posted on the worldwide web, digitising literary works is important in the sense that the work is immortalised and packaged for posterity. Both academics and ALRI representatives concurred that the norms, values and mores of a people are immortalised together with the works of art. It also becomes easier for the digital literary works to be rendered into other forms of narrative such as adapting a novel or short story into a film.

Harris (1994:1) observes that apart from using the computer as a word processing tool (which in itself offers several affordances in the study of literature) the availability of literary texts and other material in electronic format now “makes possible the incorporation of computing tools to aid students in their reading and study of literature”. However, such potentialities may be valorised if there is software written in the local languages themselves. This gives a challenge to the speakers of indigenous languages to work with computer programmers in order for them to come up with programmes and software in the indigenous languages.

It also emerged from the interviews and focus group discussions that the study of literature can also be enhanced through the digitisation process in the sense that analyses of literary aspects of novels or other genres which have been digitised such as themes, characterisation, and language aspects can be simplified. Software such as ActivePoint, Alceste, WMatrix and WordSmith Tools are examples of programmes that can be used...
(directly or indirectly) in the analysis of aspects of literary texts. In itself, the study and analysis of indigenous literature augurs well for the promotion of the languages. Crystal (2000) argues that one way to promote a weakening or sleeping language is to ensure that its speakers can use electronic technology.

Notwithstanding the challenges discussed in 5 below, the bulk of poems, plays and novels written in the indigenous languages of Zimbabwe, which are currently in hard copy format, can be digitised as a way of preserving and immortalising them. As indicated in 2.2 above, this can be done through scanning the hard copies of the works and creating databases for them. However, since “one particular problem with digital material is a very short lifespan of the carriers” (Verheul, 2006:1) i.e. hard drives of computers as well as discs or cameras, the databases should be subsequently uploaded onto the worldwide web where they can stay almost forever on the virtual site. Just like the other material that will be uploaded onto the worldwide web, this information can be easily shared by users who may be remote in time and space.

It is also important to note that such databases can be used for different purposes including the teaching of the languages in which the works are written, either as mother tongues or as additional languages. McCarthy and O’Keeffe (2010) observe that in the realm of language teaching and learning, digitised corpora may take the form of Data-Driven Learning (DDL) whereby corpora are brought into the class to become the centre of knowledge. Development of learner corpora, testing and teacher education, and language teaching materials development are other ways in which digitised corpora may be harnessed in the area of language teaching and learning.

It should however be noted that mere presence of the literary works on the internet or any other digitised local database is not a guarantee that the languages have been promoted. Real preservation entails both storage of and access to electronic digital material on a long term and permanent basis (Verheul, 2006:20). Access to the literature corpus by the general public increases greater use of the indigenous languages thereby promoting them.

As indicated in the challenges section below, there are also other prerequisites that are supposed to work along with digitisation in order to assure full preservation and promotion of the indigenous languages.

4.3 Digitisation and lexicographic work

As argued in 4.1 above digital technology plays a very significant role in the development of corpora. Interviews with representatives from the African Languages Research Institute (ALRI) demonstrated that ALRI is one organisation that has amassed significant corpora (running into several millions for some languages) and is engaged in developing them into digital databases.

As far as digitisation is concerned, a representative from ALRI intimated that:

“Digital technology is used in two main activities, that is, (a) development of corpora for the different languages. The corpora have become handy sources of data in many language related activities, chief of which is lexicography; (b) in lexicography – technology is used in the creation of databases, which are then used in the compilation of dictionaries. Electronic databases are easier to use and maintain.”

Custodians and users of these databases reported an enduring strength of the databases is that they are easy to use and maintain. To date the databases have been extensively used in the compilation of dictionaries, now numbering 7 (as shown in the Table 2 below) and the eighth (Duramazwi Revana) being expected this year (2013). Other projects in progress include Advanced Shona musical terms and Advanced Shona medical terms dictionaries.

<table>
<thead>
<tr>
<th>Dictionary</th>
<th>Year of publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duramazwi reChiShona</td>
<td>1996</td>
</tr>
<tr>
<td>Duramazwi Guru ReChiShona</td>
<td>2001</td>
</tr>
<tr>
<td>Isichazamazwi SeSiNdebele</td>
<td>2001</td>
</tr>
<tr>
<td>Duramazwi Reurapi Neutano</td>
<td>2004</td>
</tr>
<tr>
<td>Duramazwi Remimhanzi</td>
<td>2005</td>
</tr>
<tr>
<td>Izichazamazwi SezoMculo</td>
<td>2006</td>
</tr>
<tr>
<td>Duramzwi Redudziramutauro Nouvaranomwe</td>
<td>2007</td>
</tr>
</tbody>
</table>

Whilst the use of digital technology in language preservation and promotion was adopted recently by most African countries in general and Zimbabwe in particular, the number of projects accomplished by ALRI to date demonstrates great potential in as far as the whole aspect of language, documentation and preservation is concerned. We have only highlighted ALRI’s works in Shona and Ndebele yet they have also considerably covered languages such as Tonga, Nambya, Shangani and Kalanga. Furthermore, the ALRI digital corpora are being accessed by other lexicographers both at home and abroad. By making them available on the internet, it
automatically means the corpora are assured of existing forever as it is an established truth that one best way to effectively safeguard information is to upload it onto the internet.

It is also important to note that the dictionaries present the typical meanings, pronunciations, spellings, morphological structures as well as the syntactic categories of the various terms. This information has therefore become accessible to all the generations that will come. This is true as the various databases together with the dictionaries themselves are also available on the internet.

4.4 Digitisation and popular arts

Digitisation has been felt in the culture industry in Zimbabwe with varied implications. The term “popular arts” has always been confused with “popular culture”. The term “popular arts” refers to any form of cultural activity or cultural production that is framed in terms of its status as a cultural product or performance. This includes but is not limited to the performing arts like music, dance, comedy and theatre and visual arts like paintings, sculpture, handcrafts, music videos and cartoons. These categories are thus a subset of the larger category of popular culture which includes oral-based forms of cultural expression. equates popular culture to mass culture which he defines as a more universal or standardised culture. Several features of mass communication have contributed to the process of standardisation, especially dependence on the market, the supremacy of large scale organisation and the application of new technology to cultural production.

Web analysis in form of a random sample of social networks like Facebook and YouTube reveals that most of the locally produced dramas such as Paraffin, Mukadota Family, and more recently Sabhuku Vharazipi which was produced by Ziya Cultural Arts Trust, are now found on YouTube. The availability of these local dramas in digital form made it possible for them to be uploaded and marketed to the international community. The first Sabhuku Vharazipi is estimated to have sold close to 600 000 copies worldwide but most of it from piracy. Sabhuku Vharazipi 2’s highlights are currently being shown on the Trust’s website courtesy of the affordances of digital technology.

Digitisation has accelerated, and simplified the production of dramas and videos in local languages. This has also helped in the promotion of local artists and the Zimbabwean culture at large. The increased mass consumption of local dramas if piracy is contained can translate into high revenue for both the artist and the nation. (The scourge of piracy is discussed in 5.5 below). So digitisation has immensely enhanced the visibility of local languages on the international arena.

Digitisation also impacted positively on the music industry and this was witnessed in the rise of the Urban Grooves genre. The urban grooves genre was established through the process of borrowing musical sensibilities from the same corpus of global cultural and media heritage. The songs tap from the same pool of international hip-hop, R&B and soul music. All these developments were enabled by digitisation.

The majority of urban grooves artists use indigenous languages in their songs. It also emerged from the web analysis that the use of indigenous languages were being used for artistic productions, drawing on local images and life experiences, is thus attributed to the positive impact of digital technology. The use of indigenous languages by urban grooves artists has also complemented government efforts in promoting local languages.

The digitisation of urban grooves has also led to the creation of a linguistic flux which mixes many music genres. English has become intermingled with the local languages and has been changed into a new kind of a vernacular language. So in a nutshell digitisation has played a pivotal role in boosting popular culture artists.

4.5 Digitisation and indigenous technologies and knowledge

Moreover, digitisation is also important in the sense that it helps preserve indigenous knowledges and technologies that the indigenous languages carry. For instance, if work about food preservation, proverbs, taboos and games is digitised, it becomes a vehicle to pass on the knowledge and technology from one generation to the other (Hlupo, 2013). A number of interviewees concurred with Hlupo and intimated that there are many technologies and knowledges in our different languages and if these languages are allowed to die, it means that the languages will die with those knowledges and technologies.

It was also reported that folk tales, which apart from being a source of entertainment, also convey important wisdom and moral values that are integral aspects of the African philosophy of ubuntu. If such technologies and knowledge are preserved, it becomes easy to build upon them in order to come up with improved technology and knowledge.

We are, therefore, arguing that, if digitisation is given a proper chance, the languages used by the speakers of various generations may be collected, documented and preserved. This argument is based upon the fact that the sources of the digitised data include, among many others, speeches involving various generations, traditional songs, popular sayings and writings. The exercise is thus combating the general trend that in this modern world, indigenous languages are slowly disappearing with the older generations. For instance, instead of having the typical Karanga terms and structures completely disappearing with the elders and replaced with borrowed terms characterising speeches of younger generations, they have been captured and preserved in their original form.
5. CHALLENGES FACING DIGITISATION PROJECTS AND RECOMMENDATIONS

A number of challenges that face the process of digitisation were reported both by ALRI representatives as well as by representatives of language associations for Shangani, Sotho, Venda and Tonga. These challenges include the expense of the gadgetry needed to run the digital technology, negative attitudes towards indigenous languages, lack of funding and shortage of skilled personnel to implement digitisation projects. These constraints are elaborated in 5.1 to 5.4 below.

5.1 Negative attitudes towards indigenous languages

Though the government as well as other local people and institutions have the potential to invest in this exercise that requires a lot of funding, there is lack of a positive attitude, in the scholars and the public in general, towards promoting the languages. It was reported in interviews with ALRI representatives that other exercises that are associated with short term benefits are being prioritised at the expense of language. The speakers of the languages themselves who should be lobbying for the promotion of the languages also share the negative attitude. One Shangani speaker reported of an experience of his aunt living with him in a Ndebele-dominated city pretending not to speak Shangani at all, preferring to converse with him exclusively in English. There were also reports of stigmatisation of university students who studied Shangani and Venda at Great Zimbabwe University and of Shangani and Venda university graduates shunning teaching these languages. This is however in sharp contrast with submissions from representatives of the Tonga Language Association, who intimated that the Tongas had an openly positive attitude towards their language.

Even if the digitisation exercise is carried out successfully, it appears its real potential would hardly be realised as the people are often shy to research in or carry out projects in the languages. The English have a proverb which says that you can take the horse to the river but you cannot make it drink. The negative attitude illustrated in the above paragraph seems to be stemming from the nature of the national language policy that sidelines the indigenous languages in day to day activities. People are losing interest in having languages that are apparently useless as their children’s languages of initial socialisation. This behoves the government to embrace the indigenous languages into high status functions. Crystal (2000) proposes six factors which may help a language to progress. He postulates that an endangered language will progress if its speakers:

- increase their prestige within the dominant community
- increase their wealth
- increase their legitimate power in the eyes of the dominant community
- have a strong presence in the education system
- can write down the language
- can make use of electronic technology

5.2 Limited funding

Janks (2005) has argued that in most poverty-stricken countries struggling to put food on the table, efforts to promote indigenous languages are almost a luxury, thus the language question mutates from a purely linguistic question to an economic one. At the political level, the government of Zimbabwe has, though slowly, promulgated policies that seek to promote indigenous languages. This is evident in the provisions of the new constitution (see 2.1) as well as in the identification of Great Zimbabwe University as an institution to spearhead the teaching of indigenous languages in the country. This is admittedly good policy, but it should be born in mind that good policies minus funding do not take any project forward. ALRI representatives as well as other participants in the research all concurred on the prevalence of the challenge of funding. In the words of one ALRI representative, “language research, documentation and digitisation are capital intensive ventures. A lot of funding is needed for equipment, travel and subsistence, payment of consultancy services, etc.... of late this funding has not been forthcoming.”

It emerged in 2.2 above that the most important gadget for digitisation to succeed is the computer (both hardware and software). Such gadgetry being expensive and being sourced from foreign markets, it may not be difficult to imagine the financial implications.

A lot of funding is needed for equipment, travel and subsistence and payment for consultancy services, among other expenses. ALRI concedes that funding for equipment and other language research activities has largely been coming from foreign donors over the years but it should be born in mind that donor funding is only on short-term basis (Gudhlanga, 2005) makes a similar observation. It is our contention that, given the invaluable importance of preserving and promoting the nation’s indigenous languages, it is time the government shifted emphasis from policy issues to logistical issues in the promotion of indigenous languages. Key among such logistical issues is one of funding. It is also our contention that the case for revitalising the indigenous languages of Zimbabwe is so strong to be left in the hands of well-wishers. The “noble- but-impracticable” mantra has been touted for a long time in Africa, but alas at a cost!
5.4 Lack of technical expertise

Digitisation projects, as well as the collection of born-digital material, inevitably call upon technical expertise from the point of project inception to the point of consumption by the beneficiaries. Whilst the exercise requires intellectuals with the appropriate expertise in digitisation, the institutions are finding it very difficult to get people with the necessary expertise to work in the respective languages especially the ‘minority languages’. It appears not many people have been trained to higher levels in language or language related fields. According to one academic, “there is need for capacity building, that is, training people at undergraduate and postgraduate levels so that they can do the actual research work in their respective languages”. Against this background, it is recommended that interdisciplinary partnerships between scholars in the Computer Science departments and those in the African Languages / Linguistics departments be mooted in order to push the case for the promotion of the indigenous languages.

Again, as noted in 4.1 above, it is also important that the speakers of the indigenous languages be technology-literate (Crystal 2000) so that the products of the digitisation efforts have consumers. As it stands, a very insignificant number of the general Zimbabwean populace are computer literate, rendering the concerted attempts at digitising material in the local languages a white elephant at best. Interviews with the users of indigenous languages indicated that they read material in their languages on the internet rarely and mainly in the form of whatsapp messages from friends and relatives as well as from other social platforms such as facebook and other group internet pages. Nevertheless the phenomenal expansion of cellular network to cover many parts of the country by Zimbabwe’s three mobile operators has seen a steady rise in internet penetration.

5.5 Tenuous internet regulation

Interviews with artists in the popular culture industries also yielded results that they were surprised to see some of their works on internet sites such as Facebook and Youtube. A popular artist with the cast of Sabhuku Vharazipi 2 expressed concern with piracy thus: “We have benefited from digitisation but the Sabhuku Vharazipi that you see on You Tube was not posted by us. We were surprised receiving calls from people in Canada, Australia and Britain giving comments on our drama. In my view digitisation has a double effect, it has helped us to reach many people but it has also promoted piracy. People are stealing our works and selling them to international markets”. This shows that though the presence of popular art in the form of theatre, music or even sermons on the internet is desirable, most of the work is there illegally. According to one academic, “Yeah yeah yeah…digitisation is fantastic, but what is there for the artist and what is Government doing to protect the artist from the scourge of piracy?” It is clear against this background that the issue of piracy is certainly one of serious concern. It would therefore be prudent for the government to enact laws that curtail piracy of both intellectual property and creative work such as drama, theatre and music so that artists are not prejudiced through the digitisation movement.

6. CONCLUSION

It is evident in the foregoing discussion that there are a number of areas where indigenous languages are being used in Zimbabwe. This is in spite of the fact that the languages have gone through a period of marginalisation both prior to and after independence. It also emerged that digitisation, if properly harnessed and financed helps in the documentation, preservation and promotion of Zimbabwe’s indigenous languages. However, it should be underscored that successful digitisation of literature, oral and written discourse, popular art and indigenous knowledge and technologies is only a first step towards the realisation of language revitalisation. Digitisation projects need to be complemented with national language policies that promote the use of indigenous languages in the high-status functions such as law, government, business, media and in education. It is our submission that the use of indigenous languages as media of instruction gives the languages a firm foundation to perform the high status functions in society later. It is our contention also that the largely negative attitudes of the speakers of indigenous languages may be tempered if they see their languages playing important functions in their lives. However in order to perform those high functions, the languages should have been adequately documented. The level of documentation in ChiShona and IsiNdebele is scarcely paralleled by other African languages in the region but the so-called minority languages of Zimbabwe are yet to witness such success. Digitisation, which for these languages is still at an elementary stage, can be exploited to facilitate the process of documenting, preserving and promoting these languages.

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