E-learning and M-learning in African Languages

A Survey of Oshikwanyama Students at a Northern Namibian School

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***Abstract*-The paper reports on a small-scale survey carried out in a northern Namibian urban school about mobile and computer experiences as well as attitudes towards the use of Oshikwanyama in an ICT domain among grade 11 students. This paper provides some discussion of Learner Centered Education (LCE) as a useful framework for research into emancipation through technology use. It highlights the importance of African language teaching in a globalised world. The experiences and attitudes of students in relation to ICT and Oshikwanyama are presented and discussed. The findings indicate a pervasive access and use of technology, particularly mobile. Attitudes towards the use of an African language such as Oshikwanyama in the ICT domain highlighted some articulation on the part of the students. These encourage the further exploration of the potential for the use of developing ICT resources in an African language as a pedagogical tool, which is the topic of a broader study by the authors.**

Keywords-Information Communication Technologies (ICTs); Mobile learning; Electronic learning; Constructivism; Learner-centered approach; African indigenous languages.

I. INTRODUCTION

Governments around the world are adopting policies that permit private sector to expand communication network and services [11][16][19]. Individual ownership of computers and Internet connection is often difficult or impossible for most third-world indigenous groups. Community access centres are the most common means to provide access in developing contexts [11]. This situation is common in Namibia where most teachers and indigenous people are connected through the internet café and a vast number of individuals are connected through the mobile phones.

Leiberman [11] asserts that "We have to manage the process of global integration in such a way that everyone can benefit and no one gets crushed." Since ICT is an emerging tool of globalization, there is a need for education stakeholders to be involved in its integration into learning. Dalvit [4] asserts that "in order for ICT to be effective in education, the conditions must be created for students to effectively appropriate the use of the new technologies, understand how they work and how to use them". This means that teachers need to create opportunities where students can interact with ICT; need to research in depth the curriculum implementation and the classroom real-life situation because that is where the educational products are being harvested.

The focal point of this paper is a small-scale survey of the use and availability of ICT tools to students of Oshikwanyama as a first language. This serves as an explanatory tool for both the benefits of ICT in Oshikwanyama learning and the implications of ICT use in the classroom. Students' attitudes and previous experiences with the use of Oshikwanyama in the ICT domain are part of the study. This paper attempts to answer some of the following questions:

a. What are the current mobile phones and computer access and use among students at a High School in northern Namibia?

b. What are the perceived benefits and challenges of using and learning Oshikwanyama in an ICT domain?

To address these questions, two strands have been addressed in the sections that follow. Firstly, is the provision of teaching and learning using ICT and secondly, the presence of the African languages in the ICT domain. Those are discussed in sections two and three. Section four gives a description of the methods used in carrying out this survey and the last two sections provides the analysis of the findings as related to access and use of ICT and the students' perception about learning Oshikwanyama in an ICT domain.

II. THEORETICAL FRAMEWORK

When considering the dynamics of mobile and electronic learning, several pedagogical principles and theories are relevant. The learner must be the agent of change and transition at the centre of learning and be given the technological tool at his/her disposal to conquer the world in which s/he lives. The Learner-centred approach (LCE) is rooted in the constructivists, progressivist and Freirean models of education and drawing upon Vygotskian theory

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of social constructivism [15]. Learning is seen as a social act and knowledge is viewed as a matter of human construction.

LCE, underpinned by the emancipationist and liberation ideals was adopted as part of a much broader political imperative to transform, democratize, and humanize teaching and learning [12][13]. Empowering students by promoting the use of ICT is aligned with this vision. Concerning ICT use in Oshikwanyama first language learning, educators need to adopt a constructivist approach to learning. Teaching and learning African languages needs to be situated and understood within the one of the phenomena shaping the student's daily life, i.e., an ever more pervasive penetration of ICT (particularly mobiles, see [2]).

Students' experiences and attitudes need to be at the centre of research in education. Learner-centered education is informed by a view of the student as an active, visible, and central position in the pedagogic process, [15]. The interest and life-world of the student form the basis of the curriculum and students are actively involved in determining the content of education [15][14]. Furthermore, this principle evokes an emanicipatory vision where students take control of their own learning, and are seen as active, creative and self-regulatory [12][22].

III. AFRICAN LANGUAGES IN THE ICT DOMAIN

African language teachers are struggling to overcome the limitations in their own education and the shortage of indigenous language instructional materials, [11][16]. African Indigenous cultures are valuing more and more the unique knowledge they possess and are seeking to conserve and disseminate this information before it is lost to globalization. Osborn [16] stressed that Africa, which is recognized today both as a continent struggling with aspects of its own development and one where the use of ICT lags behind most of the rest of the world, is beginning to see some attention to localization, (p. 1). It is also important to note that Africa is a large continent and the one with most of the multilingual societies in the world, and thus, the European languages cannot meet all of Africa's needs, and African languages have much to contribute, (ibid. p. 5).

The Millennium Development Goal 8, aim to develop a global partnership for development and this includes the promotion of Africa's Indigenous people's participation in the Information Society while protecting the traditional knowledge against appropriation, exploitation and misuse and preserving their rights to access to ICT and connectivity [8]. In addition, the languages of indigenous people need to be uplifted through ICT, by the people themselves through indigenous literacy [18], and skills to compete in mainstream society and the need to uphold Indigenous culture and identity, [6]. This means that there is a need to develop accessible ICT resources in African languages that can be used as platforms for ICT content creation and localisation of pedagogical tools from everyone who can positively contribute.

According to [1], "the choice of a language of instruction in Africa is a political choice, a choice that may redistribute power in a global context, as well as within an African country". It is very important to note that many Namibian people believe that the previous government apartheid policy contributed to the creation of unequal language development process, whereby some language groups, e.g., Afrikaans and English were given a head start while others languished under neglect [7][20]. Oshindonga being the first written Oshiwambo indigenous language, followed by Oshikwanyama, have been dominated by the spread of European languages. However, their promotion is found lacking, since many people only advocate the use of English because it is the Language of Learning and Teaching (LoLT) [20], and many African parents prefer their children taught through the medium of English in order to gain a head start in life [20].

It is also important to note that English, Afrikaans and other European languages are the dominant languages in the ICT domain. African parents and students seem to value them more than their own language because they can give access to the world and to better jobs. This in turn encourages cultural dependency on the western world [4]. The mindset of African students has changed with globalization. They believe that English gives them a chance to face global forces, while their own indigenous languages do not.

Lieberman [11] points out that creative access and local dissemination of information within a community though ICT will provide residents with timely, useful, and relevant information. Thorne [23] indicates that "the internet does not exist in a neutral medium; it is rather a cultural artifact", (p. 437). If used wisely, the use of ICT in development of responsive pedagogical didactics and programs or activities in the classroom can result in the growth of the language at the global level and a participation of a wider community [11][16]. Paulsen [17] and Shazia [19] propose that the Internet presence of language, the appearance of new and improved web research tools, strategies, on-line reference works and electronic resources; and the development of ICTs that facilitate cross-curricular communications and collaboration is necessary. Thus, the question is not which subject is more conducive to the use of ICT, but how to use it across the curriculum, including in African language teaching and learning.

IV. METHODOLOGY

A. Research Context

This study was conducted in a northern Namibian school located in Oshana region. Though representative of other Namibian schools, the selected one presents specific features such as: 1) the school is one of the top-performing schools in Namibia, in an urban area but in one of the previously disadvantaged regions in the country. 2) Most of the students came from both rural and urban areas in the northern region).

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3) There are ICT infrastructures at the school, which comprise a full-equipped computer laboratory with 22 workstations as well as personal desktops, connected via wireless, (satellite) TV, Video and DVD players and video projector. 4) Most of the students have mobile phones although, according to the school as well as national policy, cell phones are banned from being used at school and especially during lessons.

This research site was purposively chosen because it is the school where one of the researchers is currently teaching Oshikwanyama as a first language and English as a second language. Though a minority language within Namibia, Oshikwanyama is the mother tongue of the researcher herself and of most students. For the sake of convenience, her students were used as a focus group.

The researched group consists of 32 respondents of which 11 are boys and 21 are girls from two grade 11 Oshikwanyama classrooms, with age ranges from 15 to 18 years old, the mean age being 16.3. The respondents were chosen because of their varying educational backgrounds with 63% of students having attended their primary school in urban areas and 37% attending primary school in rural areas. These students are in their first senior year and did not go far with their syllabus, and some of them have done Word Processing as a subject in the last 3 years.

B. Methodological Orientation, Process and Limitations

A case study approach was chosen as the methodological orientation for this study as it may be mostly suitable for learning more about a poorly understood or little known situation, [10]. This approach is consistent with an interpretative-qualitative methodology [3][5][21]. Such an approach appears particularly appropriate to explain the process of ICT in an African language as a potential new and emerging phenomenon and the idea of integrating ICT and African languages as part of a constructivist learning pedagogy.

Paper-based questionnaires were administered to 32 respondents. The questionnaire included 26 open-ended questions and 5 closed questions, mostly rating scale questions and multiple choices. The questions were set on a nine-page questionnaire in English. They covered previous and current use of computers and cell phones as well as attitudes towards language use in the ICT domain. Questions were analyzed qualitatively, although descriptive statistics were considered whenever possible.

The respondents were briefed on the importance of answering the questionnaire and assured that their responses would be handled confidentially and anonymously. However, the fact that one of the researchers was their teacher might have influenced their responses. Findings based on such a small sample are neither reliable nor generalisable and the school is not truly representative of most Namibian educational contexts. However, reflections on students' answers provide a platform to reflect on ICT penetration in Africa and the potential role of African languages in this domain.

V. ICT ACCESS AND USE

It is difficult to assess ownership of cell phones among low-income youth since there are varying concepts of what 'to own a cell phone' means [9]. This same situation applies to computer ownership when most of the students are from disadvantaged families and whereby most of them are still depending on their parents and guardians, and some came from rural houses with no water and electricity, and whereby mobile communication infrastructure and network reception is very poor. Thus, in measuring, the focus was diverted from individual ownership of computers/cell phones to individual access at home and school.

A. Computers

The findings indicated that only 31% of the respondents have access to a computer at home the rest 69% do not have access they only see and sometimes use computers at school. Over 70% of the respondents have less than 5 years experience with the computers leaving 24% with between 7-9 years experience and only 2% with over 11 years computer experience.

Only 44% of the respondents have basic knowledge about computers whereby 20% gained it from the Keyboard and Word Processing subject at school and 22% indicated to have attended a computer course at their primary schools, and the last 2% did not specify, whereas 66% of the respondents indicated they had not attended any computer course. These figures are consistent with self-assessed proficiency, whereby 45% of the respondents rated themselves as having basic computer skills, whereas 15% indicated to be very good with computers and the remaining 40% of the respondents' competency rated from being poor to very poor. None of the respondents had indicated to be excellent with the computers.

The respondents indicated to have used the computers for multiple tasks, whereby 50% have indicated to use it for school related activities such as research, typing etc, and the same percentages use it for connecting to social networks like Facebook, Twitter, etc. About 31% of the respondents have indicated to use the computer for playing games, download music and for journal keeping, alarms, and calculator.

Most of the respondents (about 19.8% at average) have never used the fully equipped computer laboratory at the school whereas those that have used it, (12.2% at average) have done it occasionally, more especially on monthly and weekly basis. Over 60% of the respondent have indicated to have used the computer lab for research and typing documents purposes, with the remaining percentages using it for playing computer games (10%), Social networks (16%) and other (9%) such as watching movies and videos on YouTube.

B. Cell Phones

A 97% majority of the respondents indicated they have access to a cell phone leaving only 3% without access. Most of the cell phone that the respondent have access to are the latest models and fancy phones which ranges from the smart HTC Hero and Samsung Corby TXT to NOKIA 3310. A

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78% majority of the respondents indicated they have used the cell phone for less than two years, 19% for three to four years and only 3% with more than five years usage.

Over 69% of the respondents have cell phones with internet access or connection abilities. Students and other users, particularly in developing countries, are not always aware of or capable to use all the features of their cell phones. However, respondents in the present study seemed to be able to do more activities than those supported by their phones. The discrepancy between ownership and access might provide an explanation (i.e. students knew how to do some things the phones they *normally* had access to did not support). A greater percentage of students was able to access rather than post content using these applications. The distinction between access and production is important in terms of language use. Table 1 shows which features a student's phone had and what he or she could access/post.

TABLE 1: CELL PHONE FEATURES AVAILABILITY, PASSIVE AND ACTIVE USE

Cell phone Feature	*Has*	*Can access*	*Can post to*
YouTube	31	47	34
Twitter	41	41	44
Facebook	72	75	69
E-mail	52	59	41
Skype	19	22	22
IM	50	44	44

The respondents connected to the internet occasionally using a cell phone, with 25% connecting on daily basis, 28% on weekly basis, and 22% monthly basis. 19% of the respondents indicated not to have connected to internet in their lives with cell phones. The high percentages in the social network category as Facebook (63%) indicates that the respondents are hooked on to the internet whereas since the respondents are still school students Google and mailing services have also aroused their interest more especially for research purposes. Of all the 32 respondents, 13% indicated they posted something on social networks on daily basis, 56% occasionally, and 31% indicated to have never posted anything. Instant Messaging platforms such as MXit and others seems to have been unfamiliar with a large number of respondents (N=28). Only 3% of the respondents have used Google talk, 9% Yahoo Messenger, 22% MXit. Most of the respondents (about 69%) indicated they used Facebook as a chatting and messaging platform with their friends.

VI. OSHIKWANYAMA AND ICT

The respondents were asked to give their views on the use of Oshikwanyama in the ICT domain i.e. computer and cell phones. Not surprisingly, Oshikwanyama was used extensively in voice communication via cell phone. 91% of the respondents indicated that they usually communicate in Oshikwanyama on their cell phones when talking to their parents, with a reduction to 63% when talking to their friends. Only 19% of the respondents indicated they used Oshikwanyama on their cell phones when chatting to their school friends/colleagues and parents and in cases they happen to pick up the phone from an unknown or unregistered caller.

A. Content and Interfaces

When asked if they post information in Oshikwanyama on an English website or web pages, 23% of the respondents indicated they do it in rare occasions, but only mostly on Facebook whereas 77% indicated they have never done it. Furthermore, more than 93% of the respondents indicated they had not searched for information in Oshikwanyama pointing out that they have never thought it could be available on the internet and some have indicated they have never thought of it.

When asked to mention the website that seem favorable to use Oshikwanyama and where Oshikwanyama is often used, Facebook and e-mail received preferences of 41% and 22% respectively. Meanwhile, 22% of the respondents feel that website would be an appropriate platform to use Oshikwanyama as long as it is specifically devoted to Oshikwanyama. Other social sites such as Netlog and Twitter have received minimal amount of votes since the respondents feel that they are not really used by them and most of their users are more interested on what is going on in the world of entertainment and new and not on developing educational matters.

E-mail was the most important, followed by social networks and instant messaging. 39% agreed that Wikipedia should be accessible in Oshikwanyama, Skype received the lowest percentages of the preference rate, it is indicative that some of the respondents do not normally use it and thus not sure of how it works.

B. Use

Only 6% indicated that Oshikwanyama should be used more in the ICT domain as they feel that there are people out there who cannot understand English and have to communicate in Oshikwanyama at all times. 12% of the respondents felt that Oshikwanyama is never used at all because not all people have access to the language. However, 72% felt that Oshikwanyama need to be used more in the ICT domain. Cultural preservation was cited as the main reason. Respondents also felt that there is a need for providing an alternative to English in Namibia and this will help improve school grades and understanding of the subjects.

It was apparent that the research participants experienced mixed feelings concerning learning Oshikwanyama in an ICT domain. Numerous respondents were delighted because they think it will make life easier for the people who are not fluent in English to be involved in the ICT world. People whose language is Oshikwanyama will be able to access information faster and have a wider variety of information at their disposal. People would experience pride in their mother tongue or/and first language, as its use will uplift their own indigenous language. Respondents also believe that using Oshikwanyama ICT tools will give the language recognitions

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and the respect it deserve and this will diversify the use of the language, allowing pupils to explore an advanced level of the language.

An 82% majority of the respondents identified potential benefits if Oshikwanyama was to be used in an ICT domain, and only 18% felt it would not be beneficial. Various respondents highlighted that the introduction of Oshikwanyama in an ICT domain will enable them to easily and efficiently do their Oshikwanyama related work with a greater understanding and motivation. They indicated that the level at which Oshikwanyama is used/learnt will be improved and that this could lead to increased language skills. Some respondents indicated that newly devices for language learning and studying techniques should be developed through ICT.

C. *Challenges*

The findings indicated that although there is a will and interest among the respondents towards learning Oshikwanyama in an ICT domain, there are mixed feeling concerning the possibility of it happening. This led to an upwelling of several challenges. The respondents believed that Oshikwanyama is not used enough so increase knowledge in this area will not be relevant. This then diminishes the interest of students in using the language in an ICT domain. The respondents maintained that communicating in Oshikwanyama using ICT domain greatly limit the number of people they are able to have conversations with, as most of their acquaintances are non-Oshikwanyama speakers. The respondents indicated that it is not easy to find written information in Oshikwanyama (i.e., novels, poetry, articles etc.).

Oshikwanyama was perceived to have a limited vocabulary. As a result, ICT tools and manuals would be longer and make extensive use of English borrowings. The respondents remarked that most Oshikwanyama words are longer and they require a larger space, and it is not easily abbreviated. One commented that: "English is easier to write in short, e.g., hw r u, if you perhaps shorten something in Oshikwanyama, one will not know how to translate it and know what you mean exactly". In addition, the respondents also felt that the use of Oshikwanyama would cause complications and lead to confusion.

VII. CONCLUSION AND FUTURE WORK

In this paper, we explored the access and use of ICT by Oshikwanyama-speaking students in Namibia, and their attitudes towards the use of their mother tongue in the ICT domain. In a developmental context, the two are deeply interrelated and need to be considered together. Our study showed that students in the sample were relatively proficient users of ICT. They appeared to be favorable to the use of Oshikwanyama in the ICT domain. Most importantly, students were able to articulate reasons in favor and against the use of their language in such an English-dominated domain. Promoting debate around language issues constitutes groundwork to the broader project of which this study is part. The project is concerned with the development of ICT tools in Oshikwanyama as a pedagogical tool. The findings presented here show that students possess the necessary skills and sophistication around language issues to be involved in this challenge.

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