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# Challenges that face Kiswahili Usage in ICT in NEPAD Secondary Schools in Kenya

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**ABSTRACT**

Despite the various efforts to enable Kiswahili usage in Information and Communication Technologies (ICT), users of Kiswahili language in ICT have continued to face various challenges. This paper discusses the various challenges that face Kiswahili usage in ICT in two New Partnership for Africa's Development (NEPAD) sponsored schools in Kenya that use Microsoft software's: Chavakali and Maranda Boy's secondary schools. This study is guided by a model developed from a combination of two theories: Use and Gratification theory and Symbolic Interaction theory. Data from the two schools are analyzed using qualitative and quantitative analysis. The Data for this work came from 120 students selected through random sampling and 8 teachers of Kiswahili selected through saturated sampling technique. From the analysis of the responses from the study it is evident that Kiswahili usage in ICT is faced by various challenges. Major challenges included negative attitude towards Kiswahili language, difficult technological terms, limited number of those using Kiswahili in ICT, wrong usage of Kiswahili in ICT, English preference and limited research work written in Kiswahili in the internet. Others were limited Kiswahili programs, being forced to use correct Kiswahili, and Kiswahili not being accepted by English programs. The study notes that these challenges need to be addressed. Therefore, recommendations are made on how to overcome the challenges.

**Keywords:** ICT, NEPAD, Kiswahili, Kenya, Chavakali boy's secondary school, Maranda boy's secondary school.

## 1. Background

Language plays an important role in the manipulation and optimal use of ICT. Therefore, Kiswahili being one of the African languages that have been accepted for use in ICT plays an important role in ICT use. Kiswahili usage in ICT has been influenced by the need to make ICT accessible to a larger population that speaks Kiswahili. For a long time ICT was perceived as a preserve for the elites who could speak English and other colonial languages like French and Portuguese. Kiswahili language therefore offers an opportunity to bridge the digital divide.

In Kiswahili speaking countries like Kenya, the availability of competitive tools for Kiswahili language manipulation in ICT, strengthens the chances of the language to develop into a viable means of communication. For example Kiswahili usage in ICT has been enhanced by the availability of Microsoft Windows and Microsoft office in Kiswahili which were developed by Microsoft Company (Microsoft Corporation, 2004). Also available are two spell checkers of Kiswahili. One developed by Lingsoft and the other was spearheaded by Professor Arvi Hurskainen, University of Helsinki to help editors who choose to write in Kiswahili (Ligere, 2005; Hurskainen, 2006). In addition are the Kamusi project which was initiated in 1994 and has produced Kiswahili-English and English-Kiswahili dictionaries available in the Web with free access (Kamusi Project Yale University) and the Swahili Language Management SALAMA which is important in developing the use of Kiswahili in the computer (Sewangi, 2001). Despite all these initiatives Kiswahili as a language used in ICT still faces various challenges. These considerations therefore give us the foundation for discussions on challenges that face Kiswahili usage in NEPAD-e schools in Kenya.

## 2. NEPAD-e schools in Kenya

NEPAD-e schools are schools that were established under NEPAD-e Africa Commission which is the NEPAD task team responsible for developing the NEPAD ICT program and implementing its projects. NEPAD e-schools were established with an aim of imparting ICT skills to young persons in primary and secondary schools and to use ICT to improve the provision of education in schools (NEPAD-e Africa Commission, 2003).

In Kenya six schools have already been selected initially to serve as demo schools for implementation of e-school project. These schools are situated in six provinces: Maranda boys (Nyanza province), Chavakali boys (Western province), Menengai mixed (Rift Valley province), Isiolo mixed (Eastern province), Mumbi girls (Central province) and Wajir girls (North Eastern province). Among the six schools three use Microsoft softwares i.e. Maranda, Chavakali and Wajir while three use Oracle softwares i.e. Mumbi, Isiolo and Menengai. These schools already have access to computers, internet facilities, Digital Satellite Television- DSTV, Smart board and projectors. Training of teachers on how to integrate ICT into teaching various subjects have been done. Students have also been trained on how to use ICT. The availability of various ICT's in the teaching and learning environment gives both the teachers and the students the opportunity to use these ICT's to enhance teaching and learning processes. Therefore, taking

these into consideration, Kiswahili being one of the compulsory subjects taught has the opportunity to be used in various ICT's in the teaching and learning processes in these schools.

## 3. Literature Review

### 3.1 Challenges facing Kiswahili use in ICT

Despite the continued efforts to enable the use of African languages like Kiswahili in ICT, various challenges are still evident. For example, Osborn (2007) explains that the African continent has not been represented adequately in terms of content found in the internet. Therefore there is a need to produce and collect correct information on regions in official and national languages. Osborn further argues that localization of ICT in African languages is a key factor in increasing access to and relevance to ICT. However, Osborn notes that in the area of ICT and the potential for localization, the absence of language policies that actively support African languages computing means that localization will likely depend on initiatives from individuals, organizations and companies. Osborn mentions other challenges facing localization as social problems like negative attitudes towards African languages among the specialists in charge of developments and education and even original speakers of African languages themselves. In addition, he argues that in some countries in Africa, African languages are not preferred for use in government activities and education policies.   On the issue of terminologies, Osborn indicates that the focus of localization projects with respect to terminologies is somewhat narrow as it should be to address specific needs. Osborn however notes that Microsoft Company for its localization efforts in African languages did use panels of experts to develop terminology and dictionaries.

In addition to the issue of language policy in education, Jagero (2010) also notes that a small percentage of teachers and students in NEPAD-e schools in Kenya use Kiswahili in ICT because English is the language of instruction in all subjects except Kiswahili. Therefore language policy in Kenya plays an important role in influencing the language used in ICT in schools. Currently, Kiswahili has been elevated to official language status along side English in the new constitution. This should be perceived as a step forward in changes to come on the language of instruction in schools. This will in turn affect Kiswahili usage in ICT in schools.

The availability of Kiswahili versions of programs also makes users aware of the fact that computer environments and platforms are in fact language independent. However the availability of these programs, accessibility to these programs and the quality of the programs are very important if they were to be used for the benefit of the language. For example, Hurskainen (2006) argues that although there are Kiswahili programs that have been developed for example the Living Swahili Dictionary used in the internet, those dictionaries continue to have many problems. Because they are a collection of dictionary entries, with a considerable amount of non-standard Swahili, those referring to them and especially students can be mislead to use word or expression, which is either very rarely used or non-standard. Therefore, there is a need for rigorous editing policy. It is important that during compilation of Swahili Web dictionary competing views of what is correct Swahili play a part. In addition, Hurskainen

warns that the policy of allowing anyone to become a voluntary editor of the dictionary opens up possibilities for various kinds of zealots to put their fingers in the dictionary. Also introduction of foreign words as such without adopting them to Swahili phonotax does not develop the language, especially if those words already have a number of synonyms in the language.

Hurskainen (2006) further notes that most of these electronic dictionaries and language management tools are not public resources and their uses require a special agreement with the copyright holder. For example, Microsoft Company announced that the Microsoft Office and Windows can be downloaded freely from the net. In the actual sense they are not free because it is only those who already have a purchased legal copy of the same product in some other language who can do that. Therefore, availability and affordability of these programs are a challenge to the acquisition of a legal copy by users. This intern hinders the would be willing users of these programs.

Another challenge facing Kiswahili usage in ICT is the negative belief that Kiswahili lacks terminologies to refer to ICT. Kihore (2005) however explains that Kiswahili usage in ICT's have contributed to the creation of new terminologies to explain the various new concepts that were not in existence. For example

Kiswahili             English
Tovuti                Website
Mausi/kipanya         mouse

Therefore, this is contrary to the negative belief that Kiswahili is not independent in terms of terminologies used to refer to ICT.

In addition, Petzell (2005) describes and analyses some newly adopted words in Swahili in the field of ICT. Petzell explains that Swahili is an agglutinating language i.e the morphemes are joined together. Therefore, lexical borrowings can be grouped into two broad groups: lexical borrowings which in turn can be split into loanwords and loan shifts, and creation of terms where there is no corresponding item in the source language. Some of the borrowed words are surf- kiperuzi (Kiswahili). 'Kiperuzi' has been adopted from English word peruse meaning to revise or read keenly. In the case of 'folda', the word has been adopted and written in Kiswahili for lack of an equivalent word in Kiswahili.  Petzell however notes that although BAKITA (Baraza la Kiswahili la Kitaifa) and other institutions coin terms, there is no common method for dealing with new vocabulary in Swahili. This therefore poses a challenge especially in terms of agreement on the terms to be used in referring to ICT.

Ligere (2004) while summarizing issues pertaining to recent formal and informal development of Swahili language in Tanzania noted that when the computers and mobile phones were imported to East Africa users adopted names. This terminology was as a result of informal development because none of the institutions like BAKITA and TUKI were involved at first yet this needed proper formal term elaboration in cooperation with ICT experts. It was only later that the variants in use had to be collected, checked and standardized. Ligere notes with a lot of

concern that an important opportunity of providing the public with adequate ICT terms right from the beginning was missed. This is the reason why sometimes conflicting terms complicate communication for example where people use either (computer) mouse (source language term, English), 'Mausi' (loan word), 'panya' (adopted as a Kiswahili equivalent, but meaning rat), 'kipanya' (a diminutive form of 'panya'), 'buku' (mouse) and 'kipenyezi' (functional describing the device).

Another challenge is the widespread belief in English language dominance in ICT. Zeleza (2006) notes that the dominance of European languages, especially English, has been a limiting factor in the growth of internet use in many parts of Africa. Zeleza implies in this sense that the internet not only excludes the illiterate but also those with low English literacy levels, which in most cases means those without secondary education. The question of language therefore, must be taken seriously. The usage of Kiswahili in ICT therefore offers an opportunity to those who don't understand these European languages.

In addition, Zeleza (2006) explains that the Microsoft initiatives and similar ones by Google that has launched several national web portals in several African countries shows an interesting new trend: attempts by global IT companies to enter new markets by going local, which opens new possibilities for local languages by challenging the supremacy of English. However, Zeleza notes that the challenge for internet providers and users in Africa is to aggressively expand their linguistic presence on the internet and not leave the initiatives to global software, media and advertising industries. Zeleza warns that to do so would be to surrender the development of languages in the internet age to the authority of foreign capital, to market based linguistic calculations. Zeleza suggests that East Africans need to be the architects of Swahili's globalization rather than leave it to the Microsoft's of this world. If this happens it will result in loss of control and ownership over the language as software and hardware designers in far away places set new protocols of linguistic standardization as is already happening in several parts of the world. The result will be as happened during the colonial period with European Christian missionaries; the creation of what Makoni (2005) has called 'foreign indigenous languages'. ICT's must therefore be used to empower and not further disempowering Africa's already historically and globally marginalized countries, communities and cultures.

Schryver (2002) while examining Web corpus from a perspective of African languages showed that despite the fact that English dominates the Web, and despite the fact that most work in corpus linguistics revolves around English, African languages have a place in the bigger picture. Web corpora for African languages can be compiled and especially for Kiswahili.   We therefore turn to the theoretical framework.

## 4. Theoretical framework

This study adopts a combination of two theories: Katz (1959) Use and Gratification theory and Mead (1934) Symbolic Interaction theory. The strength of these theories resides in their ability to provide a model to account for the interaction that occurs between ICT users and various ICT

through language. Use and Gratification approach puts the function of linking need gratification and media choice clearly on the side of audience members. It suggests that people's needs influence what media they would choose, how they use certain media and what gratification the media gives them.

On the other hand, Mead (1934) claims that language is the most recognized symbol used by human beings. Mead agrees that interaction is used in every context of communication with an aim of involving people in societal activities.

A model is therefore developed from the two theories to be used in the study to show interaction between users of ICT and ICT that is facilitated through language.
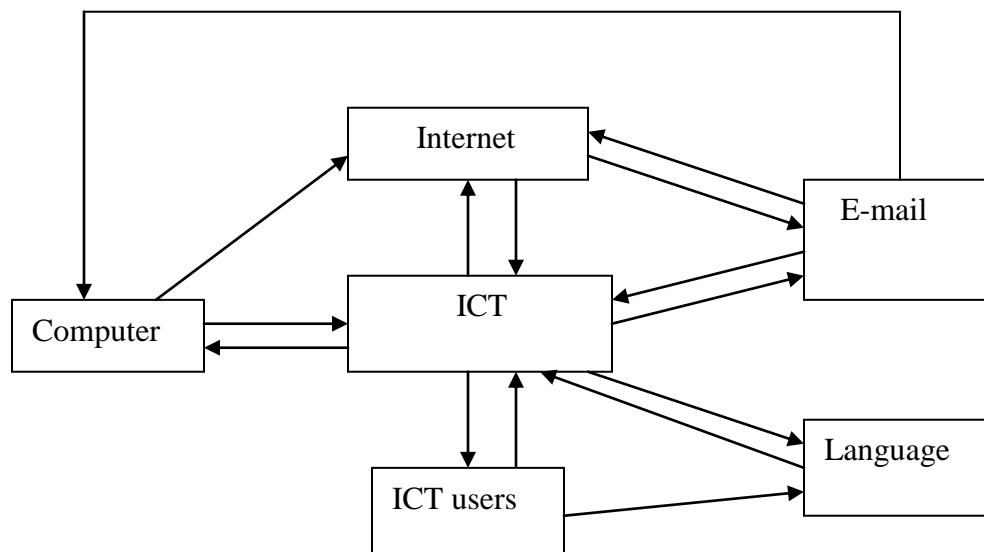


The model above shows the interaction that occurs between users, language and ICT. By looking at the various interactions, the study is able to identify challenges that face ICT users as they use Kiswahili language in ICT.

## 6. Research Design

This study employed descriptive research design because questionnaires were used to collect data from the population. A survey design provides a quantitative or numeric of trends, attitudes or opinions of a population by studying a sample of that population. Generalization can therefore be made.

## 7. Methodology

The data from the two schools were analyzed by using descriptions and tables with percentages. Sampling procedures were used in selecting the students and teachers who participated in the study. Simple random sampling was used to select 60 students in form three from each school because they all learn Kiswahili as a compulsory subject and they have mastered how to use ICT. A total number of 4 teachers of Kiswahili from each school were selected by using saturated sampling because all the teachers who teach Kiswahili in form three were included.

## 8. Descriptions and Discussions

Kiswahili as a language that has been adopted for ICT use is still being faced by various challenges. These challenges are inclusive of those that affect users of Kiswahili in ICT and those affecting the language itself. Since this was the main concern for the study discussions are made on challenges that face Kiswahili usage in ICT.

According to Use and Gratification theory by Katz (1959) people's needs influence what media they would choose, how they use certain media and what gratification the media gives them while on the other hand, Symbolic Interaction theory by Mead (1934) people interact by using the language they understand. Therefore this study adopted this basis to determine the challenges that teachers and students face when using Kiswahili in ICT.

**Table 1: Challenges that face students when using ICT**

| Challenges | Maranda | | Chavakali | |
| --- | --- | --- | --- | --- |
| | No. of students | % | No. of students | % |
| Difficult technological terms | 31 | 36.90 | 23 | 29.49 |
| English language preference | 13 | 15.48 | 9 | 11.54 |
| Negative attitude towards Kiswahili | 7 | 8.33 | 8 | 10.26 |
| Limited number of those using Kiswahili in ICT | 18 | 21.43 | 20 | 25.64 |
| Wrong usage of Kiswahili in ICT | 6 | 17.14 | 9 | 11.54 |
| Limited research work written in Kiswahili in the internet | 3 | 3.57 | 2 | 2.56 |
| Limited Kiswahili programs | 5 | 5.95 | 3 | 3.85 |
| Being forced to use correct Kiswahili | 1 | 1.19 | 4 | 5.13 |
| **Total** | **84** | **100** | **78** | **100** |

As shown in Table 1 above one of the major challenges facing students when using Kiswahili in ICT in both schools is difficult technological terms. Although the number of students faced with this challenge varied from each school it remains a major challenge to the students. One of the reasons given by the students was that they don't understand Kiswahili technological terms used in referring to ICT. This is as a result of Kiswahili acquiring new terms used in ICT. Another major challenge that was mentioned by the students in both schools although with varying numbers is limited number of those using Kiswahili in ICT. Only 1 student in Maranda boy's

mentioned being forced to use correct Kiswahili in ICT and 2 students mentioned limited research work written in Kiswahili in Chavakali boy's secondary schools. Using correct Kiswahili was not a major challenge as these students are exposed to correct Kiswahili usage in school.

**Table 2: Challenges that face teachers when using Kiswahili in ICT**

| Challenges | Maranda | | Chavakali | |
|---|---|---|---|---|
| | No. of students | % | No of students | % |
| Preference for English language | - | - | 1 | 12.50 |
| Negative attitude towards Kiswahili | 3 | 30 | 1 | 12.50 |
| Difficult technological terms | 2 | 20 | 3 | 37.50 |
| Limited Kiswahili programs | 2 | 20 | - | - |
| Limited research work written in Kiswahili in the internet | 2 | 20 | 2 | 25.00 |
| Limited number of those using Kiswahili in ICT | - | - | 1 | 12.50 |
| Kiswahili not being accepted by English programs | 1 | 10 | - | - |
| **Total** | **10** | **100** | **8** | **100** |

Table 2 shows that major challenges that face teachers when using Kiswahili in ICT are negative attitude towards Kiswahili in Maranda boy's and difficult technological terms in Chavakali boy's. This was represented by 3 out 4 teachers interviewed in each school. An equal number 2 out of 4 from Maranda boy's mentioned difficult technological terms, limited Kiswahili programs and limited research work written in Kiswahili in the internet as being challenges that face them when using Kiswahili in ICT.

From the discussions it is evident that teachers and students face challenges when using Kiswahili in ICT. These challenges can be addressed for example on difficult technological terms; there should be agreements and uniformity especially by setting up institutions charged with dealing with terminologies in collaboration with ICT experts to address this. By doing so new ICT products would reach the market with already agreed terms. Also a dictionary on new terms should be availed in the market for Kiswahili ICT users. Another important factor is that localization efforts should to be fastened so as to avail research work written in Kiswahili in the internet. In addition researchers should be encouraged to write their work in Kiswahili. Implementation of language policies that recognize Kiswahili as an official language is another factor that should be considered. For example in Kenya Kiswahili has been elevated to official

language status in the new constitution by doing so there is a probability that in future Kiswahili will be elevated to a language of instruction in schools. This will in turn affect Kiswahili usage in ICT and especially on the issue of attitude, preference for English and thus increase the number of those using Kiswahili in ICT.

## 8. Conclusions

In this article we have argued that Kiswahili usage in ICT in school is still being faced by various challenges. These challenges are inclusive of those affecting the language itself and also those affecting users of Kiswahili in ICT. On top of the list of challenges for students were difficult technological terms and limited number of those using Kiswahili in ICT. For teachers it was difficult technological terms and negative attitude towards Kiswahili. Also noted is that those difficult technological terms pose a big challenge to both students and teachers. Recommendations have also been made such as setting up institutions charged with dealing with terminologies in collaboration with ICT experts so that new products would reach the market with already agreed terms.

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