Ubiquitous Information & Communication Technology and its Impact on the Annihilation of Indigenous Languages – The Yoruba Language in Perspective

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ABSTRACT

In this information age knowledge acquired is always spread through the web. Currently on the exponential growth of the available information on the social media interface (for example every minute on the internet over 50 million information are upload and over 50 hours of videos are uploaded on YouTube alone) and therefore it is physiologically impossible to follow the information flow in real time hence make it more difficult for some country to thrive in area of research with a foreign languages. These foreign languages therefore brings numerous perils, including death which may befall a language and render its growth or relevance somewhat useless, lending to the 'birth' of a population with little regard for their own languages and therefore slow down the technology advancement of the nation. This research work extracts factors responsible for Yoruba Language in a state being annihilated. Questionnaires were administered and returned to generated dataset from the responses and Gain Ratio and Relief f techniques from Weka 3.7.9 while a threshold was set for each technique and the common was responsible for Yoruba Language annihilation. The result showed that lack of commitment to indigenous language use, Colonia legacy and in-effective language planning by the government are the factors that are mostly responsible for Yoruba language annihilation. These factors were also responsible for slow development of technology of a nation.

Keywords: Yoruba Language, Annihilation, technology, Gain Ratio and Relief f Technique

1. INTRODUCTION

The World Wide Web (WWW) contains resources in and about diverse languages. The World Internet Statistics shows that English is the most popular language on the Internet (in content and usage) and probably the most popular for Internet searches; however, there has been an increase in the presence of non-English users on the information superhighway (Internet World Stats, 2010). The different computer encoding systems, based on orthography of some of these non-English languages have brought about language-dependent problems in Information Retrieval and cause a great challenge in research success in some countries. Yoruba language which is one of the non-English languages belongs to the West Benue – Congo of the Niger – Congo phylum of African languages (Williamson and Blench 2000:31). Apart from Nigeria with about 30 million Yoruba Language speakers. The tonal language vastly spoken in the South Western region is of Nigeria, sizable part of republic of Benin, Togo and some other countries in the world is known to be Yoruba language. This international certified language with codes: ISO639-1, ISO639-2 and ISO639-3 under international standard organization (ISO) have native speakers which constitute 30% of Nigerians population and around 40million speakers throughout the West African region. Yoruba language with three basic significant tones has numbers of dialetcts ranging from 12-26 across Nigeria republic of Congo, Togo, Brazil etc Ojo (1977), Adetugbo (1982), Oyelaran (1970, 1992), Mustapha (1987), Ojo (2001). The earliest study of the Yoruba language was done by missionaries interested in translating scriptures for evangelical purposes.

The Yoruba language discrimination occurs when the vast dominating English language is preferred by many to those that speak the language right where the language evolved. To worsen the situation they regard speaking our mother tongue (Yoruba language) as illiteracy. In this paper work we extract factors responsible for Yoruba Language annihilation. Two hundred and fifty (250) questionnaires were distributed to experts, Yoruba teacher's indigenes and people living in South West of Nigeria most especially Osun, Ekiti and Ondo State. From these questionnaires, two Hundred and twenty three (223) questionnaires were administered and returned. Thus, a response rate of 89.2% was achieved. A dataset was generated from the responses and Gain Ratio and Relief techniques from Weka 3.7.9.

The dataset has nineteen (19) attributes that are discrete in nature.

Let D be set consisting of the data samples with distinct classes.

$$I(D) = -\Sigma_{i=1}^{n} P_i log_2 P_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 1.1$$

Where

P_i is the probability that an arbitrary sample belongs to class C_i and is estimated $by \frac{d_i}{d}$, let attribute A has v distinct values. Let d_{tk} be number of samples of class C_t in a subset D_i. D_j contains those samples in D that have value a_i of A. the expected information or entropy based on the partitioning into subsets by A, is given by:

$$E(A) = -\Sigma_{i=1}^{n} I(D) \frac{d_{gi} + d_{gi} + \dots\dots d_{ni}}{d} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 1.2$$

1.1 Motivation for the Study
The Ife Six-Year Primary Project (SYPP) which began in 1970 at the University of Ife (now Obafemi Awolowo University) OAU, was at the initiative of Yoruba educationists and linguists under the leadership of Professor Babs Fafunwa. The aim was to demonstrate that primary education given entirely in Yoruba from Primary 1 through to 6 was likely to produce better results. All subjects were taught in Yoruba whilst English and Yoruba were taught as subjects in the experimental classes. The result from the project showed that the children taught in Yoruba performed better than their counterparts who were taught in the 3-3 medium. This result could be said to have provided some justification for the view expressed by Chief N.A. Ajibola in 1965. Many parents strive to use English language as their main means of communication with their children because the medium of instruction in school is English, speaking English with their wards will help them to master whatever subjects they are taught in school. However, learning now become much problems among the villagers (Primitives so called) due to the fact that they must first learn English language which look foreign to them before learning the main course of their study and this method of study usually slow the pace of study for many students.

2. RELATED WORKS

According to a UNESCO (2005) overview of the subject language is an extremely serious with great scientific and humanistic consequence. Furthermore, the reviews reveal that language loss alas involves pressure which can be cultural, military, political, and social or any combination of these. This view of endangerment is directly a mirror two fold submission (Tuhus-Dubrow, 2002). First, that even the unlikely field of botany feels the threat of language extinction what with scientific primary reliance on, for instance, the vocabulary of Aboriginal Australia languages to research the area's ancient plant life; second, that being the linguistic branch of the America empire, English Haran rampant across the globe in perhaps the most insidious form of linguistic imperialism; seduction for Talius-Dubrow, people want to speak English because it is the language of advertising movies, music, and a vital tool for success.

When Yoruba is seen in the light of these observations, anyone very familiar with the language would readily conclude that there are a host of factors contending with its growth especially in the present century. Awobuluyi (2014) sum up the attitude of speakers as any careful observer of developments within the contemporary Yoruba community is bound to be filled with grave fear for the future of its indigenous language. Many Western educated Yoruba persons today seem to consider it a mark of sophistication for them to speak English where they should speak Yoruba, their native language. They speak only English to their children at home and wish only English to be also spoken and taught to them at school from kindergarten level to the University level… Himnelman (2005) describes as an endangerment scenario. Form Yoruba, therefore, the endangerment scenario is composed of the unpopularity of the language among members even for ordinary conversations; the superiority of English as a country's lingua franca; the attitude of the members to the language vis-à-vis its economic value, and the failure of its numerous words for herbs and healing processes and the adoption of English expression in their place. As is reinforcing the details of the endangerment scenario, Mufene (2002), remarks that the subject will be better understood if discussed in the broader context of language vitality, with more attention paid to factors which lie in the changing socio-economic conditions to which speakers respond adaptively for their survival.

As well be demonstrated in appropriate section below, all these observations are valid concerning the present situation of Yoruba. As Igboanusi and Lothar (2005) observed; Yoruba is the second most widely used language in Nigeria (next to Hausa) but in spite of this seemly enviable position, the Yoruba are worried about the situation of their language.

3. METHODOLOGY

Books and publications in the domain were carefully reviewed and further work of administration of questionnaire was also used where we generated a dataset for the work. The first part of the questionnaire was design to capture personal data of the respondent and also to check the oral status of the person. While the second part of the questionnaire was design to capture the contributory factors that are responsible for the Yoruba language in a state of annihilation. The responses of this questionnaire therefore formulate the dataset used in this research work which consists of nineteen (19) attributes that are discrete in nature as shown in table 1 below. However, Gain Ratio and Relief F feature extraction techniques using WEKA 3.7.9 were used to extract factors after which a threshold was set and the common factor(s) of these two results were selected as significant factors to actually determine what is responsible for Yoruba language annihilation. Microsoft Excel was used to exhibit the data collected and present the output of the two extraction techniques in a graphical form.

The following equations below express the information gained as given by

$$\text{Gain} (A) = I (D) - E (A) \tag{1}$$

Where E (A) is the entropy of the A and I (D) is the expected information.

$$\text{The } spiitinfo_A (D) = \Sigma_{i=1}^{n} (\backslash D_t \backslash D) log_2 (\backslash D_t \backslash D) \tag{2}$$

Equation 2.1 represents the information generated by spiting the training data set D into V Partition

$$gain\ ratio\ (A) = \frac{gain\ (A)}{The\ splitinfo_A(D)}. \tag{3}$$

$$Threshold\ 1 = \left(\Sigma_i^n Gain\ ratio\ (A) \right) - \left(mi - \left(\frac{3}{2} \right) \right) \tag{4}$$

Where $\Sigma_i^n Gain\ ratio\ (A)$ sum of Gain ratio of factors under consideration and n is the number of factors under consideration while mi is the minimum result of Gain result.

The equations 3.1 and 3.2 shown below expressed Relief F

$$W_i = W_i - (x_i - nearHiti)^2 + (x_i - nearMiss)^2. \tag{5}$$

$$Threshold\ 2 = \Sigma_i^n Relief\ F\ \frac{result}{n} - \left((mi) / \left(\frac{3}{2} \right) \right) \tag{6}$$

Then equation 3.3 shows the intersection of the two techniques which describe the common factors that contribute to Yoruba language in an annihilated state,

$$SF_1 = SF_{Gain\ Ratio} \cap SF_{relief\ F} \tag{7}$$

Where $SF_{Gain\ Ratio}$ is the significant factors from Gain Ratio while $SF_{relief\ F}$ is the significant factors from relief. SF_1 Is the result obtained from the intersection of $SF_{Gain\ Ratio}$ and $SF_{relief\ F}$

Table 1: Factors Identified As Possible Contributory Factors That Are Responsible For Yoruba Language To Be In An Annihilated State

SYMBOL	DESCRIPTION
ECO	Economic Condition
CL	Colonial legacy
JOB	Job opportunity and economic policy
NSSP	Native speakers and suppressive language policy
CG	Change in Government
LCIL	Lack of commitment to indigenous language use
IFC	Inferiority Complex
UNHM	Unpredictable human migration
HPOL	High Percentage of literacy
RF	Religious factors
GLOBAL	Globalization
MT	Modernization and Technology
IM	Inter-marriage
NPM	Negative perception of multilingualism
JEP	Job opportunity and economic policy
EP	Education Policy
PWS	Physical Well-being of the speaker
HHM	High rate of human migration
DST	Desertification

4. EXPERIMENTAL RESULT

In this section we present the result of the experiment in details, the data set and the existence feature extraction used in the research work. Result from the Gain Ratio technique shown in table 2 and figure 1 respectively reveals that the factors were contributory responsible for Yoruba Language to be in a state of annihilated. These factors are CL, NSSP, CG, LCIL, HPOL, MT, IM, NPM and EP. That is nine factors were responsible under gain ratio technique.

TABLE 2: Gain Ratio Result From Factors Considered

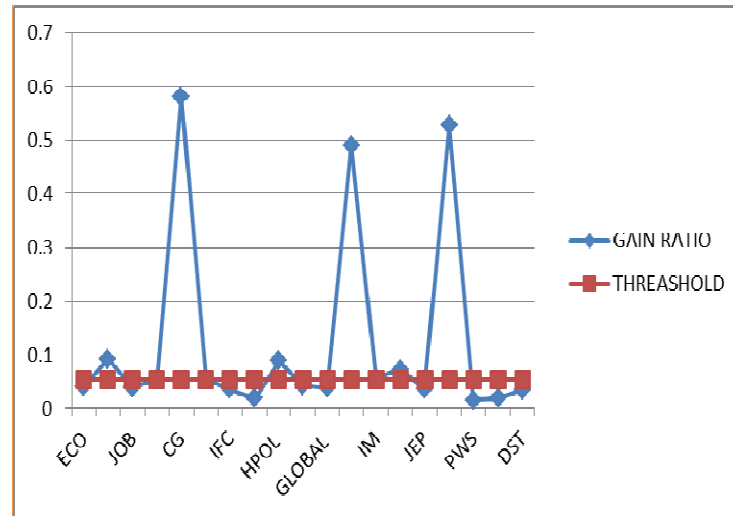| SYMBOL	GAIN RATIO	THREASHOLD
ECO	0.042	0.054
CL	0.093	0.054
JOB	0.04	0.054
NSSP	0.054	0.054
CG	0.58	0.054
LCIL	0.055	0.054
IFC	0.036	0.054
UNHM	0.02	0.054
HPOL	0.089	0.054
RF	0.044	0.054
GLOBAL	0.038	0.054
MT	0.49	0.054
IM	0.057	0.054
NPM	0.073	0.054
JEP	0.037	0.054
EP	0.527	0.054
PWS	0.0162	0.054
HHM	0.02	0.054
DST	0.035	0.054

Fig 1: Graphical Representation for Gain Ratio

Also, result from the relief F technique shown in table 3 and figure 2 respectively reveals the factors that were contributory responsible for Yoruba Language to be in a state of annihilated. These factors are CL, NSSP, CG, LCIL, NPM, and EP. That is nine factors were responsible under relief F technique.

TABLE 3: Relief F result from factors considered

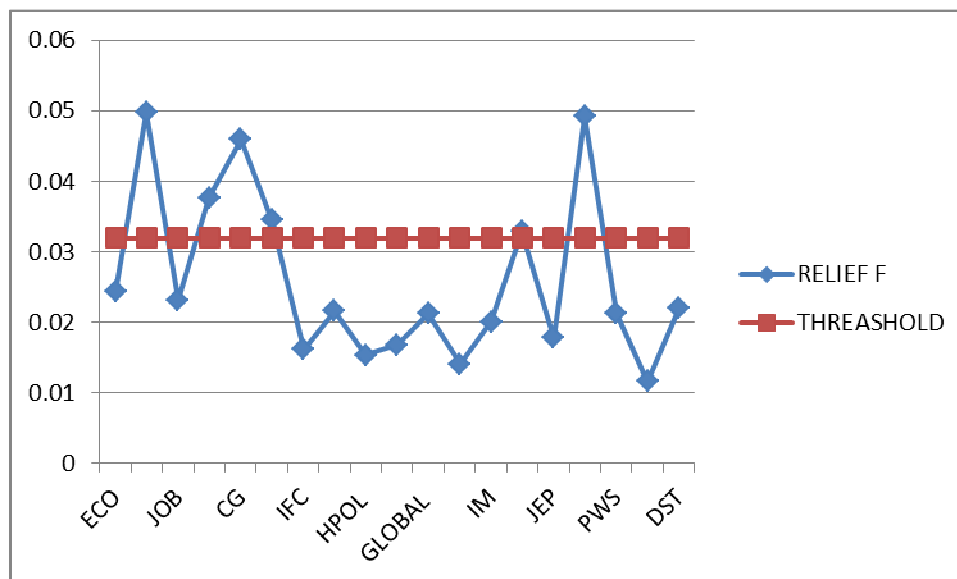| SYMBOL	RELIEF F	THRESHOLD
ECO	0.0243	0.032
CL	0.0497	0.032
JOB	0.0232	0.032
NSSP	0.0377	0.032
CG	0.0459	0.032
LCIL	0.0345	0.032
IFC	0.0162	0.032
UNHM	0.0216	0.032
HPOL	0.0154	0.032
RF	0.0168	0.032
GLOBAL	0.0213	0.032
MT	0.0141	0.032
IM	0.0201	0.032
NPM	0.0329	0.032
JEP	0.0178	0.032
EP	0.0492	0.032
PWS	0.0213	0.032
HHM	0.0116	0.032
DST	0.0221	0.032

Fig 2: Graphical representation for Relief F

However, according to equation 3.3 which shows that the intersection of the factors of the two techniques is the significant factors that contribute to Yoruba Language to be in an annihilated state.

4.1 Research Findings

The problems of Yoruba Language annihilation has contributed to the slow pace of development of the nation. Findings from this research is reflective of the fact that the promotion of indigenous languages using ICTs will assist in achieving the the promotion of technological advancement in the nation, assist indigenous citizens to contribute their skills to national development, enhances learning and teaching process and brings attitudinal change to the speaker of Yoruba language.

5. CONCLUSION AND RECOMMENDATION

Today, many native speakers of the Yoruba language take the continued survival of their Language for granted and they hardly give any thought to what fate might befall it in the future. This nonchalant, not to say negative, attitude is especially prevalent among the elite who no longer speak the mother tongue to their children. Rather, they speak only English, the ex-colonial official language because of the benefits that attach to the ability to speak the foreign language. But we should all know that development of local technology is one of the major key to national development and this start with getting rooted in indigenous language like Yoruba Language. The question of the survival of Yoruba language has been agitating and continues to agitate the minds of many Yoruba men and women, scholars, politicians, traditional rulers, administrators, professionals and others. Going by the results of the techniques used, it obvious that government at all levels has a major role to play in the sustainability of Yoruba Language.

For the future of the language to be sustainable we recommend that virtually all State Houses of Assembly (SHA) in the Yoruba States of Lagos, Ogun, Oyo, Osun, Ondo and Ekiti must deemed it fit to devote a day or two in a week to the use of the Yoruba language for the proceedings of the SHA as this will help government to make policy (Education, Economy, Political e.t.c) that will factor the sustainability of the language. Also, expert in the field should start publication of magazine in Yoruba language such as "aworerin" this will go round fast within and without south west region as people likes what brings smile to their faces irrespective of their current situation. Finally, Yoruba should be included as essential subject in our primary schools (Public and Private) and should be as pre-requisite for admission into secondary school.

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