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Gbari Orthography: A Misrepresentation

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Abstract:
The committee for Gbari orthography attests for only oral vowels and single consonants in the sound inventory of the language (Philips and Sheshi, 2004). However, it is observed that nasalized vowels and nasally released consonants are accounted for in the orthography. This is done with only the letter 'n'. This inconsistency drives this research into an investigation of what is truly obtainable in Gbari, a Nupoid language of the New Benue-Congo phylum. Data is collected with a Nexton digital audio recorder. Words showing nasality and their oral counterparts are extracted from the 1700 SIL wordlist. Minimal pair of classical phonemics is used to show contrast. Segmentation and analysis are carried out using Praat. The results show that nasalized vowels contrast in the language but are not represented in the sound system therefore did not reflect in the orthography. Conversely, the nasally released plosives are not phonemic but are represented in the orthography. It is also observed that what holds presently in the orthography is a misrepresentation of sounds. The researchers recommend that the letter 'n', inserted between a consonant and the adjacent vowel, be used to represent nasalized vowels and that it should replace that of nasally released consonants for more accurate and consistent orthographic representation.

Keywords: *Nasally released, nasalized vowels, contrast, orthography, Gbari*

1. Introduction

The spoken language is primary in linguistics. However, development and language dominance are hinged on the availability of the spoken language in written forms, as communication tool for education, economic issues, politics, religion and entertainment. Languages that are reckoned and associated with global dominance cover these areas of human need and provide information on them. These language roles are accompanied largely and almost equally with both spoken and written forms of language (other forms do exist) and the medium for the interpretation of both the spoken and written forms is orthography. Williamson (1984) states that orthography is needed in documenting language for daily communication. Therefore, a good orthography can never be over emphasized. An alphabet system characterized with well represented sound-letter symbols, reserves the power to immortalize a language and its culture. The language will also be available to the global community for intellectual input. Therefore, the desire of any language speaker who wants his or her language to be developed and sustained will first be amongst all, to develop the orthography.

2. The Gbari language and Its People

Gbari is a Nupoid language of the New Benue-Congo phylum (Wiliamson 1989, Blench 1989), a language with two major lects popularly known as the Southern and Northern Gbari with lexical similarity of about 88%-89% (Rosendall, 1992). The Southern and Northern lects are in a near-continuum, with a closer sister language (Gbagyi) intervening. The Southern Gbari from Abaji (an Abuja surburb towards Lokoja) moves upwards north to Kwali, Bako, Dabi, Gwagwalada, Kuje, Gwako, Giri. At Bwari, Garki up to Karu, we find Gbagyi, a sister language. Then a further move northward to Nassarawa and Niger States, we find the Northern Gbari in company with a majority of Gbagyi, the Bassa, Kwoto and Gade languages. However, it is the Kwali variety, a part of the Southern Gbari that is chosen as a sample for this study.

3. Statement of the Problem

Philips and Sheshi (2004:10) recorded five (5)oral vowels /a e i o u/ in Gbari vowel system with no record of nasalized vowels. Subsequently, Philips and Sheshi (2004) explained the presence of the nasals in C2 position of orthographic consonant clusters, to include:

- That when the 'n' is combined with a plosive consonant – pm, bm, tn, dn, kn or gn, it means the plosive is nasally released [p^n bn t^nd^n kn g^n]
- That when letter 'n' occurs with thefricatives < fn, vn, sn, zn, shn> or affricates <chn, tsn> the vowels are fully nasalized.
- That when the letter 'n' occurs with approximants <yn, wn> then both approximants and vowels following are fully nasalized.

Omozuwa (2010) asserts that an appropriate orthographic system should be understood within the context of what is phonetically and orthographically logical given that orthography is derived from the sounds system obtainable in the language. Williamson (1984) upholds this in the 'principle of accuracy' for a good orthography. Recall that Philips and Sheshi (2004) recorded only five oral vowels. However, they accounted for nasalization in 2-3. This indicates that nasalized vowels exist in the language because fricatives, affricates and approximants are not nasally released in the language. More so, in condition 1, the inserted letter 'n' accounts for nasally released consonants while in condition 2-3, it accounts for nasalized vowels and consonants. To correct this misrepresentation, a detailed phonological analysis on the concerned structure needs to be carried out (Blench, 2012). The phonemic statuses of the nasalized vowels are also determined in this research. All analyses are backed up with language technology evidence as demanded in Longtau (2017).

4. Methodology

Descriptive approach is employed in this analysis. Kilankwa ward II, Kwalli town of Kwali local government area is the sample community for this study. Data is generated from the 1700 SIL wordlist using the Nexton digital audio recorder. Linguistic consultants are two males and a female born and bred in the speech community. Minimal pair of classical phonemics is used to show contrast. Praat software is used for acoustic analysis.

5. Literature Review

Principles of orthography, the origin of nasalized vowels and orthographic review of languages with nasalized vowels will be discussed in this section

5.1. Origin of Nasalized Vowels

Greenberg (1966) opines that nasalized vowels are initially oral vowels in syllable final positions adjacent to nasalized consonants in the VN order. Given the structure VN> ṼN>Ṽ, the vowel is nasalized in the same the nasal environment, then the nasal gets deleted, leaving only the nasalized vowel. languages such as Edo, Esan, Yoruba have their nasalized vowels originate through this source. Conversely, Hyman (1972) posits that nasalized vowels originated rather from a CNV structure such that in a CV_1NV_2 structure, the V1 gets deleted by vowel syncope, the nasal consonants nasalizes the following vowel and also gets deleted leaving only the initial consonant and the nasalized vowel. This process is captured in the scheme CVNV>CNV>CNṼ>CṼ. Examples are gotten from the Nupoid languages – Gbagyi, Gbari and Nupe.These two sources actually apply to different languages as seen from the examples and are still valid in linguistic study. Most languages with the VN origin, orthographically represent their nasalized vowels in a VN form like <an> for [ã]. The orthographic form of the nasalized vowels in the Nupoid family is not the well ascertained.

5.2. Characteristics of a Good Orthography

Williamson (1984) propounds five principles for a good orthography which includes accuracy, consistence, harmonization, familiarity and convenience. The principle of accuracy entreats that the orthography must align with the sounds in the language. Principle of consistency emphasizes the need for a symbol to represent each significant sound. This way, a speech sound will not be confused with another. Omozuwa (2010) asserts that an appropriate orthographic system should be understood within the context of what is phonetically and orthographically logical given that orthography is derived from the sounds system obtainable in the language.The principle of familiarity talks about well-known symbols, something the speech community is used to or can easily get used to. The symbols should also be readily accessible, easy to use and convenient. Finally, whatever forms are adopted, it should be similar with what is obtainable in the orthographies of related or neighboring languages. These principles are hierarchical in the sense that the principle of accuracy must first be met before its consistency can be ensured. Likewise, the principle of harmonization, familiarity and convenience must be employed in the choice of which letter will represent a speech form. Blench (2012) attests that phonological analysis is of essence in that an effective orthography only presupposes a well-researched phonological analysis. Longtau (2015) posits that a good orthography must have as its basis, a good survey of its dialects, with a detailed phonological and grammatical, language technology verifiable analysis which at least can generate a 2000 entry dictionary drafted with instrumental support. He further opines that the stated research results must be presented to a formally set up, well represented and attended orthography committee at different orthography workshops. The approval of the orthography committee comes first before it is forwarded for government approval.

5.3. Yoruba orthography

According to Oyebade (1998), the sound system of Yoruba language is made up of 18 consonants and 12 vowels. The consonants comprise of 16 oral consonants and 2 nasal consonants. The oral consonants are produced with the closure of the nasal cavity by the velum. They are [b t d k g kp gb ʤ r f s ʃ h l w j m n] with their respective orthographic representations as < b, t, d, k, g, p, gb, j, r, f, s, ṣ, h, l, w, y, m, n>. Also,Oyebade (1998) attests that the vowel system in

Yoruba language also has both oral and nasal vowels. The oral Vowels are produced with a free flow of air from the lungs through the mouth cavity while the nasal cavity is closed. There are seven (7) oral vowels in Yoruba language. [i e ɛ a o ɔ u] orthographically represented as < i, e, ẹ, a, o, ọ u >.The nasal vowels are conversely produced also with free flow of pulmonic airstream that escapes both from the mouth and nasal cavity due to a lowering of the velum. There are five distinctive nasal vowels in Yoruba language. They are [ĩ ɛ̃ ã ũ ɔ̃] orthographically represented as: <in, ẹn, an, un ọn> respectively.

5.4. Nupe Orthography

According to Roger Blench (2009), Nupe has five oral and three nasal vowels [i e a o u ĩ ã ũ]. The consonants are [p b t d tʃ f v s z ts dz ʃ dʒ k g kp gb h m n l w j] represented orthographically as < p b t d c f v s z ts dz sh j k g kp gb h m n l w y> respectively. The oral vowels retain their forms in orthography. The nasalized vowels pose a challenge such that representing the nasal consonants orthographically with the conventional VN raises an ambiguity. It gets confusing on when it is the 'n' for nasalized vowel or with the 'n' for syllabic nasal.

5.5. Edo Orthography

Omozuwa (2010) identified thirty-nine sound (39) phonemic sounds in Edo, twelve (12) vowels and twenty-seven (27) consonants. The consonants are [p b t d k g kp gb vb f v s z ɹ r ɾ l j x ɣ w h m ɱ N ŋʷ ɲ] orthographically represented as <p, b, t, d, k, g, kp, gb, vb, f, v, s, z, r, rr, rh, l, y, kh, gh, w, h, m mw, N, nw, ny >. The twelve (12) vowels are made up of seven (7) oral vowels and five (5) nasalized vowels. The oral vowels are [i e ɛ a o ɔ u] represented respectively as < i, e, ẹ, a, o, u, ọ> in orthography while the nasalized vowels are [ĩ ɛ̃ã ɔ̃ũ] with their respective orthographic representations as <in, ẹn, an, un,ọn>

5.6. Ikwere Orthography

According to Williamson et al (2010), Ikwere orthography is made up of 28 single letters < a b d e ẹ f g h i ị j k l m n n ṅ o ọ p r s t u ụ v w y z >, nine (9) diagraphs < ch gb gh kp kw nw ny wh >. The phonemic representation of consonants is also recorded in Alerechi and Kari (2018) as /m n ɳ ŋ ŋʷ p b t d k g kʷgʷ ɸ ɓ tʃ dʒ f v s z ɣ hʷ h r j w l/. The vowels operate the vowel harmony grouped into two, the dotted vowels (narrow vowels) and the undotted vowels (wide vowels). Ikwere language records eight (8) contrastive nasalized vowels [ĩ ẽ õ ũ ã ɛ̃ ɔ̃õ] written orthographically by inserting an 'n' between the consonant and the vowel within the syllable. Examples of nasalized vowels as represented in the orthography as culled from Williamson et al (2010). See example one.

Example (1)		
Bna	[bǎ]	'peel' yam.
Tne	[tḗ]	'dance'
sni nsni	[sǐ ńsǐ]	'smell'
igno	[ìgò]	'eagle'
znọ	[zɔ̌]	'defend'
osnu	[ósǔ]	'milipede'
snụ	[sṍ]	'wash'

Table 1

From the examples in (1) it is observed that unlike the Edo and Yoruba languages, the letter n is inserted between the consonant and the vowel. Williamson (1984) grouped Ikwere and Gwari (a unifying name for Gbagyi and Gbari lects) under languages with nasally released consonants and recommends the insertion of 'n' between the consonant and the vowel. However, in Williamson et al (2010), it is used to represent nasalized vowels likely because the nasalized vowels are phonemic and the nasally released consonants are not.

6. Data Analysis

In this section, the status of the nasalized vowels will be determined and the double representation discussed and adjusted.

6.1. Phonemic Status of Nasalized Vowels

Nasalized vowels occur with the nasally released plosives, fricatives, affricates and approximants. Examples of words with nasalized vowels are shown in example 2

Example (2)	
kⁿḯ	'pick, choose'
kágⁿā̄	'revive'
nápⁿī̄	'slap'
pⁿḯ	'peel'
tⁿḯ	'to rob (on body)'
gⁿḯ	'to stand'
bⁿà̄	'break'
kⁿú	'sell'
dasṹ	'rest'
éʃ ḭ̃	'waist'
fì	'to sweep'
sà̄	'filter'

Table 2

The examples in (2a-g) are examples of nasalized vowels in the environment of nasally released consonants. In this environment, it is difficult to determine the status of nasalized vowels. Also, it is stated in literature that even before the nasally released consonants, the open back unrounded vowel [a] is either minimally nasalized or not nasalized at all (Hyman and Magaji,1970; Philips and Sheshi 2004). However, examples (2h-l) show that nasalized vowels can occur in a non-nasal environment. the status of nasalized vowels gets even more complex with structures that are near-counterparts with that of the nasally released. Words with such structure and the counterparts are given in example (3)

Example (3)			
kⁿḯ	'pick, choose'	Kí	'sew'
pⁿḯ	'peel'	Pí	'drive' (car)
tⁿḯ	'to rob (on the body)'	Tí	'small drops (liquid)
gⁿḯ	'to stand'	Gì	'give'
bⁿà̄	'break'	Bà	'read/count'
pⁿá	'to hang (bag)'	pá	'to tie'

Table 3

In example (3) is it is assumed that the nasalized vowels are only nasalized as a result of their environment, then it can be said that the nasally released plosives contrast with their single counterparts. On the other hand, if the existence of nasalized vowels is adopted, it then also means that the nasally release plosives and their single counterparts are likely to be allophones of the same phoneme. Taking the first option will demand an explanation for nasalized vowels that occur in non-nasal environments. On the second option, a more reliable data that supports the assertion is shown in example 4.

Examples (4)			
ʃà̄	'imitate'	ʃá	'see it there'
sà̄	'filter'	sá	'slice'
sḭ́	'drink'	si	'buy'
w̃á	'catch'	wá	'to remove (one) from bunch (e.g. broom)'
j̃á	'pursue'	já	'leave it'
ezṹ	'clay soil'	ezû	'guinea fowl'

Table 4

From example (4), direct contrast of the oral and nasalized vowels is seen. Based on this data, this research analyzes nasalized vowels as phonemic. This is because, contrast has been shown, they are more consistent and a more distributed than the nasally released consonants. The nasally released consonants are found only in the environment of nasal vowels [ã ĩ ũ] while their plain counterparts go with the oral vowels and they do not contrast. Nasally released consonants are seen only in plosives [pⁿ bⁿ tⁿ dⁿ kⁿ gⁿ kpⁿ gbⁿ]. This work then adopts nasally released consonants as allophones in complementary distribution with the phonemes [p b t d k g kp gb]. Speech spectrograms showing nasally released consonant is shown in Fig.1. This is used as a yardstick to check nasal release in fricatives. Identical spectrograms with the only difference in the vowel qualities are shown in Figs. 2, 3, and 4.

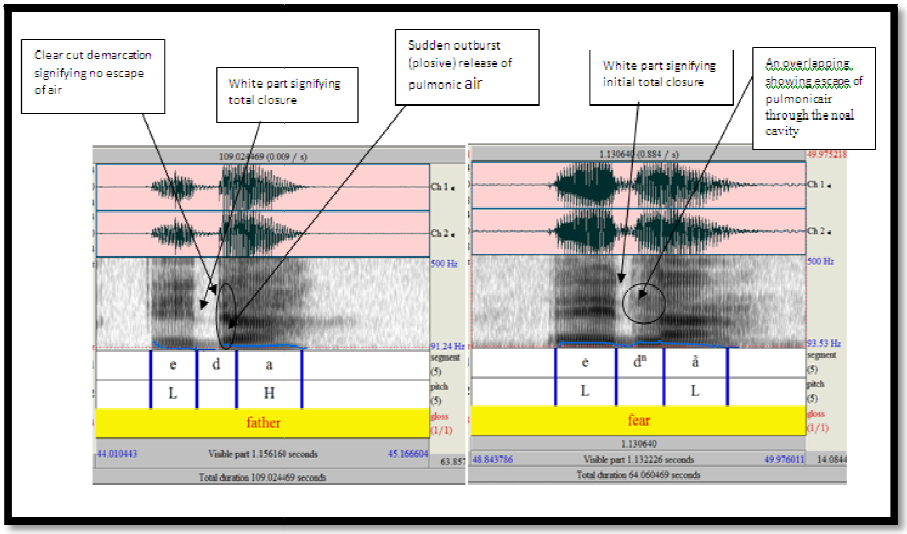

Figure 1: Spectrograms for the Words /Èdá/ Father and /Èdⁿà/ Fearcomparing the Medial Segment to Show Nasal Release

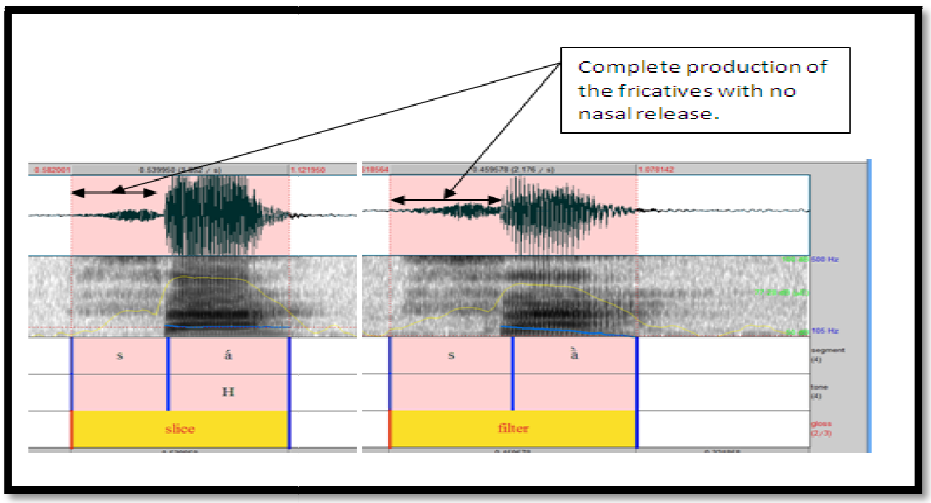

Figure 2: Showing Words 'Sa [Sá]–Slice' and 'Sna [Sà] – Filter'in Contrast Position

Fig.2 shows that fricatives are not nasally released therefore the contrast is solely within the vowel segment. Fig. 3 and 4 show the spectrograms for approximants.

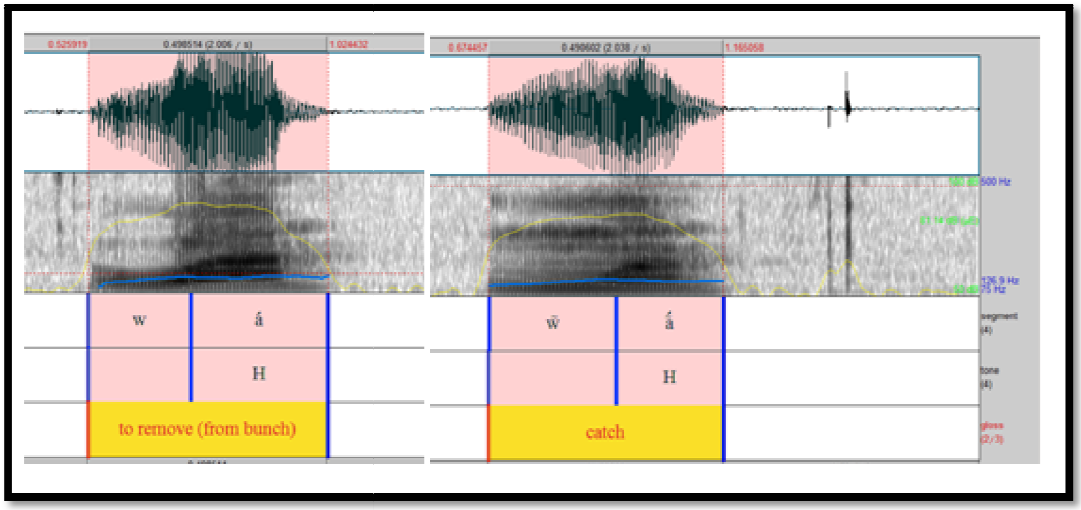

Figure 3: Showing the Words 'Wa [Wá] – to Remove From Buncheg. Broom' and 'Wna [W̃á] – Catch' in Contrast Position

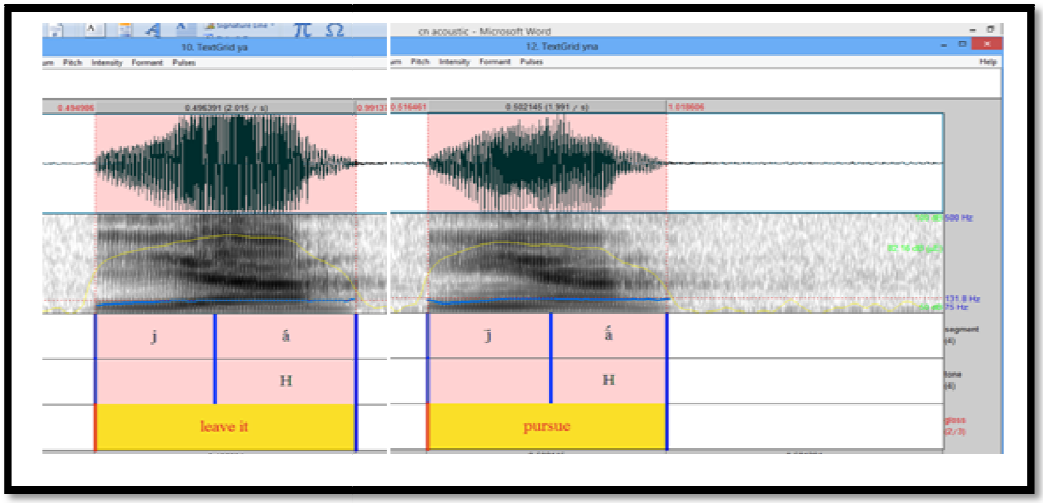

Figure 4: Showing The Words 'Ja [J̃á]– Leave It' and 'Jna [J̃ã́] – Pursue'in Contrast Position

The pairs in Fig 3 and 4 are identical in structure. The differences lie in the darkening of the right sided spectrograms signifying nasalization. Summarily, Figures 2,3 and 4, it is observed that the fricatives, affricates and approximants are notnasally released. Invariably, they are not responsible for the nasalization that occurs in one of each of the pairs. It is also observed that the nasalized vowels are contrastive with their oral counterparts. This proves that nasalized vowels are contrastive in the language and therefore should be considered phonemic.

6.2. Issues in Gbari Orthography – The Misrepresentation

The 'n' insertionintroduced by Williamson (1984) to represent the nasally released consonants should only be absorbed in the orthography if only it is phonemic in the language. This corresponds with the principle of accuracy that requires any sound represented to be a significant sound in the language. The 'n' introduced in the Gbari orthographyto represent the nasally released consonants will be scrutinized using the principle to s of a good orthography ascertain its validity.

- Accuracy: in the sound inventory of the language, the nasally released consonant is not represented. However, it is represented with a symbol in the orthography (Philips and Sheshi, 2004). This violates the principle of accuracy.
- Consistency: in the orthography presented in Philips and Sheshi (2004), the 'n' is meant to represent the nasally released plosives as in 'gni – stand', 'kna – fry'and 'bma – break'. However, in words like 'sni -drink', 'wna – catch' where the consonants are not nasally released, it is used to represent nasalization. This is not consistent.
- Literature attests that the open back unrounded vowel [a] is either minimally nasalized or not nasalized at all in the environment of nasally released consonants (Hyman and Magaji,1970; Philips and Sheshi,2004). This is not backed up with any acoustic evidence therefore perception cues may not be considered consistent and accurate.

7. Recommendations

It is clearly shown from the last section that it is inconsistentto use the orthographic 'n' for both nasally released consonants and nasalized vowels and also that nasally released consonants are not phonemic in the language. this study recommends that since the languages with VN nasalized vowel origin insert 'n' behind the vowel for orthographic representations of nasalized vowels, it is suggested that languages with CNV origin should use 'n' inserted between the consonant and the vowel for orthographic representation of nasalized vowels.The nasally released plosives can still be marked or identifiable because they occur only with nasalized vowels. The recommended 'n- insertion' for nasalized vowels with CNV origin is also subjected under the principles for good orthography discussed earlier. The result is listed below:

- Accuracy – the 'n' aligns with the nasalized vowels in the language. E.g. sní [sĩ́], wna [w̃á] catch and kna [kⁿá].
- Consistency – in the language, 'n'between the consonants and vowels represents nasalized vowels in every environment, before plosives, fricatives, affricates and approximants.
- Familiarity – the language is already acquainted with this form in writing. It is only misrepresented in the sound system and pedagogy. It is also suggested that for nasalized vowels before plosives, that 'n' be used for the alveolar and velar plosives while 'm' is used before bilabials' This is because that has been obtainable in the orthography. Perceptually too, the nasal release is homorganic with the place of articulation of the plosive.
- Convenience – it is easy to use and accessible.
- Harmonization – since languages with the VN origin use 'n' after the vowel for their orthography then it is relatively similar and quite expected that languages with the CNV origin should use 'n' before the vowels.
- Language technology device is employed for objective result.

8. Conclusion

This study has been able to acoustically resolve the status of the nasalized vowels and address the misrepresentation in orthography. It is hoped that this will be looked into by committee for orthography for adequate adjustments.

9. References

i. Alerechi, R.I.C. and Kari, E.E. 2018. Verb inflectional morphology in Ikwere. Studies in linguistics. Vol. 48 pp 79-114.
ii. Blench, R.M.1989.Nupoid. In John Bendor-Samuel(ed.), The Niger-Congo languages,305-322 Lanham,Maryland: University Press of America.
iii. ……..2009. Nupe dictionary. Cambridge: Kay Williamson Educational Foundation
iv. ……..2012.Research and development of Nigerian minority languages. Advances in minortiy language research in Nigeria. Vol.1 Rudiger Koppe Verlag,Koln,pp 1-17.
v. Greenberg, J.H. 1966. Universals of language. Oxford: M.I.T Press
vi. Hyman,L.M and.Magaji,D.J. 1970. Essentials of Gwari grammar. Ibadan: Institute of African Studies.
vii. Hyman, L.M.1972. Nasals and nasalization in Kwa. Studies in African Linguistics, Volume3, No. 2, pp 167-206
viii. Longtau, S.R. 2015. Practical perspectives on minimum essentials for effective orthography designs in Nigeria. Jolan: Linguistics Association of Nigeria
ix. Omozuwa, V.E. 2010. Edo Phonetics and phonology. Benin City: Ambik Press.
x. Oyebade, F. O. 1998. A Course in phonology.Ijebu Ode: Shebiotimo Publications.
xi. Rosendall, H.J.1992.A phonological study of the Gwari lects. Dallas: Summer Institute of Linguistics.
xii. Philip, A. N. and Sheshi, N. 2004. The Gbari orthography. Minna: Gbari Language
xiii. Wiliamson, K.1984. Practical orthography in Nigeria.Ibadan:Heinemann Educational Books Plc
xiv. ……..1989.Niger-Congo overview. In John Bendor-Samuel(ed.), The Niger-Congo languages,3-45. Lanham,Maryland: University Press of America.
xv. ……., Ekwulo, S.A, Alerechi, R.I.C, Wali, J.T.N, Weje A. 2010. Reading and writing Ikwere. Port Harcourt : M and J Grand Orbit Communications Ltd.