



THE EFFECT OF IGBO (L1) ON THE LEARNING OF CHINESE (L2) AMONGST JSS2 STUDENTS OF NNAMDI AZIKIWE UNIVERSITY HIGH SCHOOL, AWKA

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Abstract

The intention of this study is to look at the effect of Igbo (L1) on the learning of Chinese (L2) amongst the JSS2 students of Nnamdi Azikiwe University High School, Awka. The two languages under study have their phonological peculiarities, hence, any Igbo learner of Chinese is bound to encounter difficulties and vice versa. In other words due to the phonological differences between the mother tongue (MT) and the Target Language (TL), the sound system may create a problem in learning the target language. The study looks at the contrast in the segmental phonemes of Igbo and Chinese in order to point out some difficult areas Igbo speakers and Chinese speakers may possibly encounter in the process of learning Igbo and Chinese. The data for this study were collected through primary and secondary sources. The work is able to bring out the similarities and differences using the contrastive analysis as a framework. Through a descriptive approach, the two languages are presented, Isolated and described. The pedagogic problems are predicted based on the differences that exist in the sound systems of the two languages. The work reveals amongst other things that the absence of some of the phonemes in Igbo which are present in Chinese will pose learning difficulties for Igbo learners of Chinese. Chinese has the greater number of vocalic phonemes than Igbo, hence the Chinese learners of Igbo will have less difficulty in learning Igbo. Certain sounds in Igbo which are absent in Chinese will pose learning problems to the Chinese learners of Igbo. Chinese has aspirated sounds such as /P^h t^h K^h tS^h etc/ which are absent in Igbo, will pose learning problems to the Igbo learners of Chinese. Absence of retroflex sounds in Igbo may lead to error in production. Also, in the Chinese vocalic inventory, there are diphthongs and nasals, they constitute learning problems. The study concludes by suggesting that language teachers should focus more on those areas of difficulties in the two languages in the course of teaching, in order to enhance learning them as target languages (TLs).

Keywords: Igbo, Chinese, L1, L2 Target Language, Language Learners, phonology

INTRODUCTION

Background of the study

The current wave of globalization has gradually turned the world into one massive global village. The ability to speak any of the major languages of the world; English, Chinese, French, German etc. furnishes one better to face the challenges of globalization. The agreement to establish Confucius Institute between Hanban (China) and Nnamdi Azikiwe University (Nigeria) in 2008 brought about an increased demand for the study of Chinese language. At the moment, Chinese language is taught and studied at Nnamdi Azikiwe University (Unizik) at certificate and degree levels and also at the Unizik High school, Awka. Majority of the student are Igbo speakers. Since the inception of Chinese studies many students who are Igbo speakers still grapple with the basics due to mother tongue interference. Many reasons have been put forward in order to explain the reasons for the difficulties students face in learning Chinese as L2.

While Igbo is of the Afro Asiatic family, Chinese belongs to a separate branch of the Sino-Tibetan language family. Igbo is a register tone language with three level tones (high, low and down stepped



tones). The tones are marked on all tone bearing units (TBUs) as follow; high – /acute accent), low -\ (grave accent) and downstep – (macron). Chinese is a contour tone language, it has four (4) tonemes represented as follows, first tone – (high-level tone, second tone / (starting low and rising), third tone v (falling rising) and fourth tone \ (falling). The writing system of the two languages is different; Igbo is an alphabetic language whereas Chinese is a logographic language. Writing Chinese (character) is one of the hardest aspect in learning the language. Each character is made up of various strokes formed by different dots or lines as the basic components. In 1958, the Chinese government passed the Act that adopts the Latin alphabet (pinyin- arranged sound) writing scheme. This writing scheme has helped the Phonologists in drafting the Chinese phonetic Alphabet. This has helped the oversea countries in studying the Chinese language.

In terms of popularity, more people speak Chinese than Igbo or any other language in the world. Kutzer (2002) notes that Chinese language has more speakers than any other language, twice the number of people that speak English speak Chinese and it is one of the five (5) official languages of the United Nations (U.N). It is against the above background that the current study decides to look into the effect of Igbo (L1) on the learning of Chinese (L2) amongst JSS 2 students of Unizik High school, Awka. It is generally assumed that the features of the first language usually interfere with the learning of the second language. Cook (1969) is of the opinion that for there to be a lasting solution, there is need to compare the features of both source language (mother tongue-TL) and the target language (TL) in order to find out the problems students learning both languages are likely to have or encounter. This study therefore sets out to compare the sound systems of standard Igbo and that of standard Chinese (i.e. Mandarin Chinese). This is to, amongst other things, predict and describe areas that will cause difficulty in learning of any of the languages. That is, the significant sounds of both languages will be identified and compared.

Area of Study

The area of this study is Nnamdi Azikiwe University High school located at Awka in Anambra State.

Purpose of the Study

The purpose of this study is to do contrastive analysis of the phonology of the two languages under study (Igbo and Chinese), identify areas of similarities and differences and therefore predict the difficulties students are likely to encounter while learning these languages. This will enables us achieve the following objectives;

1. To reveal the differences as well as the similarities of the consonants and vowels of both languages.
2. Predict difficulties students learning Chinese are likely to encounter.
3. To find out the extent the revealed differences would hinder the learning of Chinese as L2 to Igbo speakers.
4. To call the attentions of teachers, curriculum planners and text book writers to areas that demand greater attention.

Research Questions

The research questions that will help in achieving the objectives of this study include;

1. What are the differences and similarities in the phonology (consonants and vowels) of Igbo and Chinese?



2. What are those problems that the learners of either language (especially Chinese) are likely to encounter.
3. To what extent would the revealed differences hinder the learning of Chinese as L2 by Igbo speakers?
4. How will the study benefit the language teachers, curriculum planners, textbook writers and the learners?

Statement of the Problem

As earlier stated, most of the difficulties Igbo learners of Chinese encounter are as a result of L1 interference. These difficulties are caused by differences between the two languages; different sound systems, and writing systems. These problems informed the current study which is how the Igbo speakers can overcome the L1 interference to enable them to speak and write Chinese that is intelligible to both Chinese speakers and other non-Chinese speakers.

Scope of the Study:

The study aims strictly at using the contrastive approach to bring out the differences and similarities between the sound systems (consonant and vowels) of standard Igbo and standard Chinese and to point out areas of likely difficulties Igbo learners of Chinese are likely to face and vice versa.

Significance of the Study

Over the years many works have been done on Igbo and Chinese respectively but not much work have been done on Igbo and Chinese in the area of contrastive study of their segmental phoneme. This work will fill the scholarly gap. This work will be beneficial to Igbo learners of Chinese; they would be exposed to the differences and similarities between Igbo and Chinese. This will help them to know the areas to pay greater attention on while learning. The work will be of benefit to Igbo business community who has transactions with Chinese. They will be equipped with the basic knowledge about Chinese. Researchers and linguists will benefit immensely from this study as it will encourage further research into Igbo and Chinese. Since the work will be documented, it will serve as a source of reference to other researchers. Also, it will equip teachers, curriculum planners, textbook writers etc. on areas to pay greater attention on while teaching the second language or planning the school curriculum.

Methodology

In carrying out this study, two methods of data collection were employed; the primary data came through native speakers of Igbo from JSS 2 class of Unizik High school fifty (50) students were selected and interviewed as informants using unstructured questionnaires and tape recorder. Also personal interaction was also employed. The secondary data includes: textbook, thesis, dissertation, journals and seminar papers and online sources.

Limitation

Some constraints were encountered which include: the informants not speaking in their natural voice once they noticed the presence of the tape recorder. In order to overcome this, the researcher had to remove the recorder and interact with them for sometime before going into the main question session.

Another constraint is the attitude of the informants; some of them hide once they sight the researcher. Some of the questions were left unanswered. The researcher had to take her time getting to make them relax, explaining to them the importance and eventual use of the research.



Also, due to limited time and space, the researcher could not touch on all the aspect of the phonology of the two languages under study; nevertheless, the necessary areas needed for the study were adequately treated.

REVIEW OF RELATED LITERATURE

In this section, related literature on the topic under discussion are reviewed under the following headings:

- i. Conceptual Framework
- ii Theoretical framework
- iii Empirical studies
- iv Summary of literature reviewed

Conceptual Framework

Under conceptual framework, we will look at some concepts of language learning and teaching as they relate to the study at hand.

Error Analysis

Most linguists shy away from defining errors because of their controversial nature rather, they choose to discuss sources of errors and their types. Labov (1972:200) highlights the difficulties in distinguishing errors from mistakes. If errors are generated by the grammar, there is nothing to prevent us from setting it aside as a mistake or dialect differences.

Several classifications of errors have been done by some authors. Corder (1967:170) classifies errors as “pre-systematic, systematic and post systematic errors.”

- a) Pre-systematic errors are made while the learner is still trying to understand the language. Example; a learner in trying to get the concept of the language may make sentence like: (a) A am a teacher, (b) I am a cat (c) I am a goat etc.
- b) Systematic errors are made when the learner has formed a hypothesis which may not be applicable in all cases. This is otherwise known as over generalization. Example is the learner using “ed” to form past tense of all verbs e.g goed, comed etc.
- c) Post-systematic error occurs when a learner has mastered a lot about the languages and sometimes forgets some. Selinger (1972) looks at the classification and comes up with the following classifications of errors;
 - a. Language transfer: when the learner transfers aspects of his first language into the target language.
 - b. Transfer of training: this occurs where the errors are as a result of methods or procedures of training.
 - c. Second language communication strategy: This is the learner using the target language (TL) to suit him, that is, errors that arise when the learner communicates with native speakers.
 - d. Overgeneralization: errors that occur because of overgeneralization of the target language rules. Richards et al (1992:127) classify errors unto two categories. The first category include;
 - a. According to vocabulary- lexical error
 - b. According to pronunciation –phonological error
 - c. According to grammar- syntactic error



- d. Interpretative error – According to misunderstanding of speaker’s intention.
- e. Pragmatic error- According to production of communicative effect. The second group is based on the learner’s performance.
 - a. Inter-lingual errors: caused by interference of the mother tongue.
 - b. Developmental errors: brought about by natural stages of language development.
 - c. Error of overproduction- using certain structures often
 - d. Induced errors- resulting from transfer of training.
 - e. Communication based errors; this is as a result of failure to use certain structures from the target language thought to be difficult.

Contrastive Analysis:

This is one of the approaches in analyzing learners errors. Contrastive analysis can be traced to fries (1945). He postulates that the most effective materials are those based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner.

Lado (1957) summarizes the contrastive analysis hypothesis thus:

“... individuals tend to transfer forms and meanings and the distribution of forms and meanings of their native language and culture... comparison between native and foreign languages lie the key to ease the difficulty in foreign language learning” (p1-2). The notion of contrastive analysis hypothesis (CAH) is premised on the believe that where two languages are similar, positive transfer would occur, where they are different, negative transfer or interference would result (Lasser-Freeman & Long 1991). Learner’s errors are seen as the results of definable learning mechanisms called transfers.

Adegbite (2005:35) notes that “transfer has to do with the influence of the learners precious language(s) on his present learning. Where the two languages have similar rules or concepts, there is positive transfer of learning, where there are differences, there will be negative transfer of learning.

Sanusi (1998) notes that language learning has to do with habit formation in which case any previously formed habit (especially from the native language) is said to hinder or facilitate the acquisition of new habits (learning a second language) this largely depends on the differences or similarities between the native languages and the target language. Procedures of contrastive analysis as cited in Whiteman (1990:132) include four steps as follow;

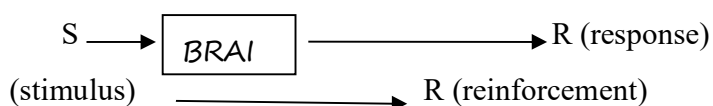
1. Taking the two languages (L1 and L2) and writing formal descriptions of them or choosing descriptions of them.
2. Picking forms from the descriptions for contrast.
3. Making a contrast of the forms chosen and
4. Making a prediction of difficulties through the contrast.

In relation to language teaching Ogundepo (2015) lists the following ideas of contrastive analysis;

- Describe and compare the mother tongue (L1) which is the source language and the foreign language (L2) which is the target language.
- Predict point of difficulty
- Use the results in order to improve teaching materials

Agbedo (2003) draws a distinction between language learning and language acquisition. Language learning is a conscious process of accumulating knowledge of the vocabulary and grammar of a language while language acquisition is the gradual development of ability in a language by using it naturally in communicative situations. Skinner (1957) provides one of the earliest theories of language acquisition. Skinner said that children learn language based on environmental influence, that is, behaviorist reinforcement principles that associate words with meaning. Skinner performed several experiment with rats. The rats were put in a box which had a small container or pan within it. A lever was introduced to allow the passage of pellets of food into the pan within it. Reinforcement made the rat to operate the lever when hungry because food was produced whenever the lever was operated. The behaviorists believe that “if an act is followed by a satisfying stage of affairs, the probability of its occurrence in similar situation is increased” This means that, if there is a stimulus, there will be a response, and if there is a re-enforcement, there will be a response. The implication of the above theory in the learning context means that positive expressions such as ‘good’, very correct; ‘wonderful’ are indices of secondary reinforcement. On the other hand negative form of observations means withholding the secondary reinforcement.

Figure 1: skinner’s model of stimulus – response



The weakness identified in the behaviorist’s theory led to its criticism by many theorists. The weaknesses include the following.

- a. Skinner was only interested in things observable
- b. Skinner had little or no interest between the stimulus stage and the response stage.
- c. It seems that skinner was not interested in retrospect.
- d. The theory does not account for the innate or abstract mental processes.

Transformational Generative Theory

Chomsky (1957) counters skinner’s opinion by introducing the theory of universal Grammar (UG). Chomsky argues that all children are born with inbuilt equipment or an innate ability which makes them receptive to the common features of all languages. This is the special equipment known as the Language Acquisition Device (LAD), this allows children to develop language skills. He contends that there are two main structures in any sentence; the surface structure and the deep structure. The surface ones are developed from the deep structures.

Chomsky sees skinner’s behaviorist theory as inadequate only suitable for animals, too simple and lacking the capability of explaining the complexity of marriage. Hence the cognitive theory states that “every part is contributing to a whole” that is, between the stimulus and the response, there is some organization

Figure 2:

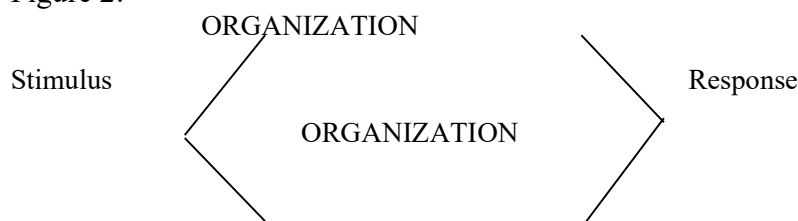
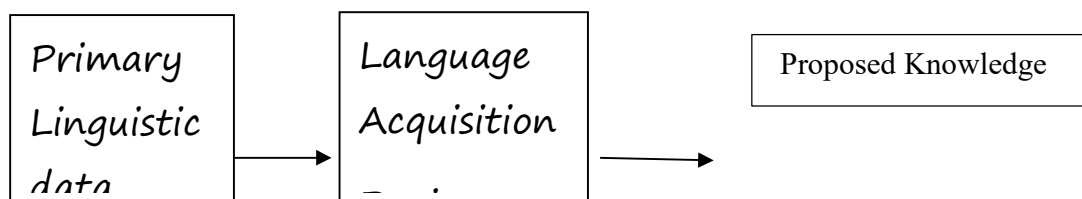


Figure 3: Language Device Acquisition Device(LAD) proposed by Chomsky.



The language learning theories above are important and relevant to language teaching because they;

- a. Provide the teacher with useful background
- b. Enlighten the teacher on some of the ways the human brain carries out learning
- c. Confirm that there are ways in which learning language skills take place and
- d. Provide the teacher with some scientific basis for teaching.

Empirical Studies

In this section, we will mention some works done by others that are related in one way or the other to the current study.

Oluike (1978) contrasts the syntax of Igbo with that of English. He brings out the difficulties which an Igbo learner may encounter while learning English as a second language. He also notes that the lexical patterns of the learner are influenced by the mother tongue interference.

Onuegbu (2005) looks at the consonant system of Mbaise and that of English language. Onuegbu notes that Mbaise has 42 consonants whereas English language has 24 consonant sounds. She concluded that difficulties encountered by Mbaise English learner emanate from the differences in the phonemes of the two languages in question.

Li (1998) contrasts word order in English and Chinese, she notes that the difference between the two languages is in the secondary elements or modifiers. The attributes that modify a noun are or pronoun take different positions in both languages. The attributes are grouped into pre-modification and post-modification, that of Chinese are positioned before the nouns they notify. This is always a source of confusion to Chinese learners of English language and vice-versa.

Eme and Odinye (2008) discover in their study that standard Igbo has 28 consonants while mandarin Chinese has 21 consonants. They identify some sounds which are present in Igbo but peculiar to Chinese and vice versa. They are of the opinion that such peculiar sounds will constitute learning difficulties to Igbo learners of Chinese.



Odinye (2010) looks at the phonological problems of Igbo learners of Chinese. He posts that there are some sounds which are found in Chinese but not found in Igbo. Also, those sounds with their equivalence in both languages are not articulated in the same manner. (Such as Ch, Z, Sh etc). These areas of differences pose as learning difficulties to Igbo learners of Chinese.

Okoye (2014), in contrasting the vocal phonemes of the standard Igbo and the mandarin Chinese posts that Chinese has more numbers of vowels than the Igbo counterpart. Whereas, there are 36 (thirty six) vowels in mandarin Chinese, Igbo has only 8 (eight). In addition she identified 8 diphthongs and 16 nasal vocalic segments which are absent in Igbo. She concludes that for Igbo native speakers learning Chinese, the plethora of vocalic sounds in Chinese will pose as learning difficulties.

The works reviewed above are all relevant to the current study in that they contrasts two languages to find out learning difficulties encountered by learners of either languages under study. However, the current study differ in that no known study has been done in the area of the learning problems encountered by Igbo (L1) speakers trying to learn Chinese (L2) amongst the J.S.S students of Nnamdi Azikiwe University High School, Awka. Whereas Eme and Odinye (2008) and Odinye (2010) compares the consonantal phonemes, tones and errors of both Igbo and Chinese using Nnamdi Azikiwe University students as case study, the current study intend to contrasts the segmental phonemes of the two languages under study using Unizik High School students as area of concentration hence filling a scholarly gap.

Theoretical Framework

The study employs the theory of contrastive analysis. The theory began with Robert Lado's (1957) book "language Across Cultures". This is a language teaching tool that was used extensively in the field of second language acquisition in the 1960's and 1970s. It is built upon the ideas set out in linguistic relatively, otherwise known as the Sapir-Whorf Hypothesis, the believe is that language structures affect cognitive thinking which eventually leads to the automatic transferring of one language's rules to another, Yang (1992). The contrastive hypothesis (CAH) states that the structure of the first language affects the acquisition of the second language (Fries 1945, Lado 1957). CAH' refers to the theory itself while contrastive analysis is all about the method of implementation of the hypothesis, in other words, CAH is all about the theory and method. CAH according to Ward haugh (1970) has two versions, the weak and the strong versions.

The weak version identifies the difficulties encountered during the process of learning; it does not pay attention to the apriori prediction of linguistic difficulties. That is, it involves the observational use of the CA. The strong version notes that the main barrier to L2 learning is from interference of the learners L1 system. Hence, the more the difference between learner's L1 and L2, the greater the difficulty, a systematic and scientific analysis of the two languages systems can help predict the difficulties, the result of the CA can be used as a reliable source in the preparation of teaching materials, planning of course and the improvement of classroom techniques.

The merits of CAH is summarized as follows, contrastive analysis is carried out for pedagogical purposes because:

- i. It aids the L2 teachers to plan and execute effective teaching and learning.
- ii. It helps in identifying difficult areas
- iii. It aims at encouraging positive measures or strategies that would help to develop syllabus which can facilitate the L2 learning process to take place within the shortest time limit that is possible



iv. It also helps the learners to have a good knowledge of the structures of L2.

CA has variously been criticized because of some shortcomings such as:

- a. It is not all differences that can hinder meaning
- b. It does not predict some of the errors which learners are observed to have made.
- c. It predicts some errors that do not occur.
- d. Despite the above shortcomings, CA has been found to be a veritable tool for the study of language learning and teaching.

Summary of Literature Reviewed

From the various literature reviewed on contrastive analysis done of different languages. Although some scholars are of the opinion that contrastive analysis does not adequately predict learner's learning difficulty. They however, agreed that it is recognized as a veritable tool for predicting learner's difficulties while learning his or her L2. CA is an important framework which when applied effectively aids teaching and learning of two or more languages. From all the works done on CA which we have reviewed, none contrasts standard Igbo and mandarin Chinese segmental phonemes. This study therefore, is to fill that scholarly gap.

RESEARCH METHODOLOGY

This study centers on the effect of Igbo (L1) on the learning of Chinese (L2) by the JSS 2 students of Nnamdi Azikiwe High School, Awka. The Methodology of the study is discussed under the following sub-headings: research designs, area of study, and population of the study and method of data collection etc.

Research Design

The research design used in this study was descriptive survey. According to Nwogu (1991:80) it is the type of design that aims at collecting data on, and describing data in a systematic manner. About the characteristic features or facts of a given population. This design is chosen because the researcher is interested in comparing the phonology of standard Igbo and that of Chinese. to among other things, predicts and describe areas that will cause difficulty in learning if any.

Area of the Study

The study area was the Nnamdi Azikiwe University High School, Awka in Anambra State of Nigeria.

Population of the Study.

The population is made up of JSS2 students of 2018/2019 academic year in Nnamdi Azikiwe University High School. The students are made up of 20 girls and 30 boys making a total of 50 students.

Sampling and Sampling Techniques

Nwogu (2006) notes that sample include a small group of element drawn through definite procedure from a specifically population for inclusion in a study and from which the researcher hopes to gain generalisable knowledge about the whole population. On the other hand sampling technique is a plan specifying how elements will be drawn from the population. The sample of this study will comprise fifty (fifty) questions drawn from one hundred (100) collected from students and teachers.

Both random and stratified sampling techniques will be used in drawing the sample. Random sampling known as probability sampling by Nwogu (2006) is that method of drawing sample or



portion of the population so that each member has an equal chance of being selected. Stratified sampling is the process of selecting a sample in such a way that identified sub groups in the population are represented in the sample in all the same proportion that they exist in the population.

Instrument for Data Collection

The instrument for data collection in this study will include, tape recorder and semi structured questionnaire, personal observation, participation and personal communication.

Reliability of the Instrument

Reliability will be achieved by making sure that the data collected through tape recorder and semi structured questionnaire are transcribed and used. Also, the data gathered through personal observation, participation and communication will also be transcribed and used given that the questions are framed in such a way that they can give specific and direct information on the research questions.

Method of Data Collection

Two method of data collection were employed for this study: the primary and secondary methods. The primary data were gathered through the students who are native Igbo speakers. They were interviewed as informants using tape recorder. Also, interactive session with the students and personal communication with the teachers were employed. The secondary data includes thesis, text books, journal and seminar papers etc.

Method of Data Analysis

The data gathered were analyzed to determine where native speakers of Igbo are likely to encounter problems in the pronunciation of some Chinese sounds and words.

DATA PRESENTATION AND ANALYSIS

INTRODUCTION

Igbo language and Chinese language are two distinct languages that have points where they relate at a peripheral, and also numerous points where the two languages diverge extensively. The differences between the languages are more prominent in the structural components of the languages; the writing systems also differ, also, the degree of popularity of the two languages differs (see background of the study).

The matching methods will be used (one of the procedures of contrastive analysis in applied linguistics) in this study. In this procedure, the constituents of the targeted areas of the two languages of study are matched with their equivalent in order to determine their similarities and differences.

Segmental Phonemes of Standard Igbo and Mandarin Chinese

Standard Igbo Consonants

From my observation as a native speaker of Igbo, my informants and available literature there are about twenty eight (28) consonants in the phonemic system of the Igbo language. They are as listed below:

{p b t d kw gw k g f v s z ʃ y h ɸ dʒ m n ɲ ŋ w ŋ p ɓ l r j w}



The consonants for standard Igbo are placed in a consonant chart as shown below, this is in order to capture the three-term labels of description for consonants (place and manner of articulation, and the state of the glottis).

pl Mn ↓	Bl.	L-d	Al	P-al	Pl	VI	L-VI	Lb-VI	Gl
Pl	P b		t d			K g	Kp gb	Kw gw	
Nl	m		N		ɲ	ŋ		ŋw	
Fr		f v	S z	ʃ		ʎ			h
Af				tʃ ɖʒ					
Lt			L						
Tr			R						
App					j		w		

Fig. 1: Consonant chart of the standard Igbo

In the above consonant chart indicate:

Pl; place; Bl; Bilabial; L-d; Labio-dental; Al, Al-veolar; Pl, palatal; VI, velar; L-VI, Labio-velar; Lb-vl, labialized velar; Gl, glottal; Mn, Manner, pl, plosive; Nl, nasal, Fr, fricative; Af, Affricate; Lt, lateral; Tr, trill and A

pp, approximant.

Standard Igbo Vowel System:

The standard Igbo has 8 (eight) vowels. They are / i ɪ e a u ʊ o ɔ / The standard Igbo vowels can be grouped into two sets. The (+ATR) and (-ATR). These vowels are said to co-occur with only members of their group. In other words, vowels in (+ATR) do not occur with those in (-ATR) this means that standard Igbo have vowel harmony system. The two groups of the vowels are:

Set A

(+ATR)

(i a u ɔ)

Set B

(-ATR)

(ɪ e ʊ o)

The vowels can be represented in a chart as below:

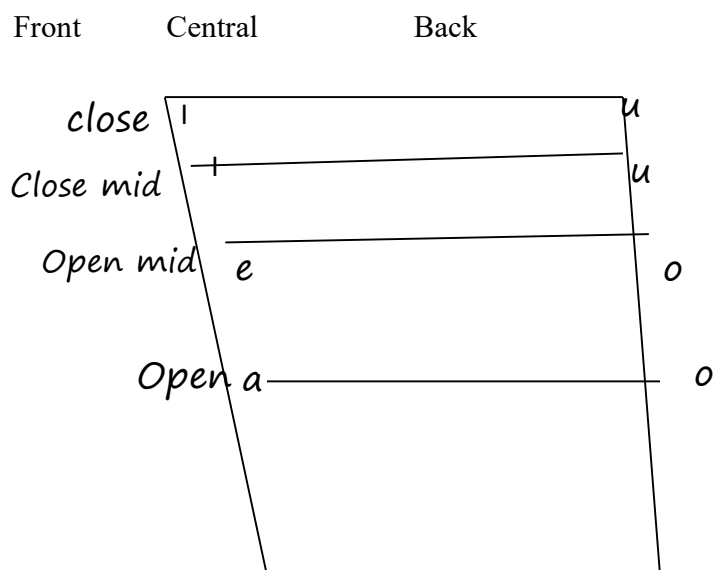


Fig.2: vowel chart of standard Igbo.

The use of minimal pair test aids in establishing the phonemes of the standard Igbo. The minimal pair test for consonants are:

/p/ /b/

pu /pu/ 'germinate

bu /bu/ 'carry'

/t/ /d/

te /te/ 'rub'

de /de/ 'write'

/k/ /g/

ka /ka/ 'superior'

ga /ga/ 'went'

/kp/ /gb/

akpa /akpa/ 'bag'

agba /agba/ 'jaw'

/kw/ /gw/

kwuru /kwuru/ 'said'

gwuru /gwuru/ 'dug'



/m/ /n/

imu /imu/ 'to give birth'

inu /inu/ 'to hear'

/ɲ/ /JJw/

nye /ɲye/ 'give'

nwe /JJwe/ 'possess'

/JJ/ /JJw/

nu /JJu/ 'drink'

nwu /JJwu/ 'die'

/v/ /ʏ/

Vee /vee/ 'fly'

ghee /ʏee/ 'fly'

/s/ /z/

sie /sie/ 'cook'

zie /zie/ 'send'

/ʏ/ /g/

ghee /ʏee/ 'fly'

g/ee /gee/ 'listen'

/tʃ/ /dʒ/

che /tʃe/ 'wait'

Je /dʒe/ 'go'

/l/ /n/

lee /lee/ 'sell'

nee /nee/ 'look'

/r/ /s/

rie /rie/ 'eat'

Sie /sie/ 'cook'

/r/ /n/

iru /iru/ 'face'



inu /inu/ 'proverb'

/j/ /w/

iyó /ijó/ 'beg'

Iwó /iwó/ 'deny'

The vowels of Igbo are illustrated with minimal pairs test as presented below:

/u/ uru ʔuru/ 'gain' -

oru /oru/ 'slave'

/o/ obe /obe/ 'cross'

ebe /ebe/ 'beatle'

/ɔ/ oru /ɔru/ 'work'

aru /aru/ 'bite'

/e/ egbe /egbe/ 'gun'

ogbe /ogbe/ 'neighbourhood'

/a/ isa /isa/ 'to wash'

Isi /isi/ 'to say'

/i/ isi /isi/ 'smell'

Iso /iso/ 'to follow'

/i/ imu /imu/ 'to give birth'

Ima /ima/ 'to know'

The Standard Chinese Consonants.

Mandarin Chinese has 21 (twenty one) initials (that is consonant sounds) and 38 finals (that is thirty eight vowel sounds). The following consonants are obvious using the symbols of the international phonetic Association (Revised to 2005).

P P^h t t^h k k^h m n f s ɕ h ts ts^h tɕ tɕ^h ʅ ɹ

Each of the consonants above is as listed below according to its orthographically representation in Chinese words;

b /p^h/ baba 爸爸 'father/ dad, bu 不 no/not/

p /p^h/ pang 胖 'fat, , pí 皮 'skin'

d /t/ deng 等 'wait' da 大 big'

t /th/ teng 疼 'pain/ache, ta 他/她/它 'he/she/it'ǎǎ



g /k/ gao 高 ‘tall/high, guo 过 pass
 k /k^h/ kai 开 ‘open, ku 哭 cry
 m /m/ men 们 ‘door’ mama 吗吗 ‘mother/mom’
 n /n/ ni 你 ‘you’, nǎn 难 ‘difficult’
 f /f/ fu 夫 ‘father’ fā 发 ‘send’
 s /s/ sī 四 ‘four’ sān 三 ‘three’
 x /c/ xiexie 谢谢 ‘thanks,’ xie 鞋 ‘shoes’,
 sh /s/ shu 书 ‘book,’ shui 水 ‘water’
 h /h/ he 和 ‘and,’ hen 很 ‘very’.
 Z /ts/ zài 再 ‘again,’ zǎn 咱 ‘dirty’,
 C /ts^h/ cuo 错 ‘wrong’, cí 词 ‘word,’
 J /tɕ/ jiào 叫 ‘to be called’, jinglǐ 经理 ‘manager’.
 q /tɕ^h/ qing 庆 ‘relative’ qing 请 ‘please’,
 zh /tʂ/ zhong 重 ‘middle,’ zhe 这 ‘there’,
 ch /tʂ^h/ chu 出 ‘go’, chūkǒu 出口 ‘exit’
 l /l/ lǐ 里 ‘inside,’ liù 六 ‘six’,
 r /l/ ren 人 ‘person,’ rè 热 ‘hot’,

it is important to note that the letter b represent /p/, p /ph/, d /t/, t /th/ and k /kh/. The phonemes /m, n f s, l h/ are orthographically represented by their corresponding letters, but the orthographic representation of /ts^h/is ‘c’, /ts/ /z/, /tɕ/’j’, tʂh/’c’, /tʂ/zh’ and //tʂ^h /’ch’ (schmalt 2004) cited in (Eme & Odinye 2008).

The above consonants are placed in a consonant chart in order to better specify the description of their production in terms of the state of the glottis, the place of articulation and manner of articulation.

Place Manner ↓	Bilabial	Labio dental	Alveolar	Alveolar Palatal	retroflex	velar	glottal
Plosive Plain Aspirate	P p ^h		t t ^h			K k ^h	



Nasal	m		n				
Fricative		F	S	ɕ	S		h
Affricate: Plain Aspirated			ts ts ^h	tɕ tɕ ^h	tʂ tʂ ^h		
LateralApproximant			l				
Approximate					ɻ		

Fig.3: Consonant chart of Mandarin Chinese.

From the above chart Chinese has six plosives, two nasals, five fricatives, six affricates, one lateral approximant and one approximant. These give a total of twenty one (21) consonants.

Mandarin Chinese Vowel System

According to literature (sum 2006, Liu 2010), the word ‘finals’ refer to vowels. The Chinese finals (vowel) are thirty six (36) in terms of structure. The standard Chinese vowels system consists of six (6) basic finals/vowels, thirteen (13) compound vowels and seventeen (17) nasal compound vowels,

Description and Distribution of Mandarin Chinese vowels.

The basic vowels (simple finals) : They are six (6) basic vowels that constitute the sample finals in Chinese.

i/i/ close high front vowel as in ‘qi’ 其 /tsi/ (actually)

U /u/ close high front rounded vowel as in /lu (green)

U /u/ close high back rounded vowel as in ‘qu’ 去 tsu (go)

E /ɛ/ open mid front vowel as in ‘he’ /he/ 合 (to unite)

O /o/ open mid back rounded vowel as in ‘bo’ 波 /po/ (wave)

Z /z/ open low front vowel as in ‘ma’ 嘛 (hemp).

The six basic vowels or simple finals in Chinese are presented in a chart below;

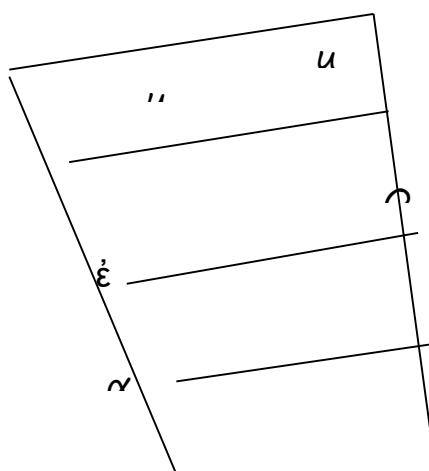


Fig 4: Mandarin Chinese vowel chart.

The diphthongs

ei/ei/ as in 'lei' 雷 (thunder)

ao /au/ as in 'dao' 到 (arrive)

ou /ou/ found in 'tou' 头 (head)

ai/ai/ found in 'lai' 来 (come)

ao/iau/ as in 'xiao' 小 (small)

iou /iou/ it is spelt as u when it follows an initial as in 'xiuxi' 休息 (rest).

Uai/uai/ as in 'shuai' 帅 (handsome)

ui (uer) /uer/ when it follows a consonant it is spelt as ai, as in 'dui' 对 (to suit)

The Nasal Compound Finals

These are vowels with nasal endings, that is, they are followed by nasal consonants –in or –ng. they are as listed below;

an/an/ as in 'fan' 饭 (meal)

ian/iaen/ as in 'lian' 连 (connect)

uan/uan/ as in 'zhuan' 转 (to concentrate)



uan/yaen/ when it follows j, q and x, the two dots on u are to be removed as in yuanquan 圆圈 (circle).

En/en/ as in 'gen 跟' (root)

In /in/ as in 'jin 尽' (only)

Un (uen/ uen/, it is spelt as 'un' when following a consonant as in 'cun 村' (village).

Un/yn/ when it follows j, q and x, the two dots above u is dropped as in 'undun' 伦敦 (London)

Any/aj/ as in 'qiang 强' (spear)

Uang/uaj/ as in 'chuang' 床 (window)

eng/aj/ as in 'feng 风' (wind)

ing /ij/ as in ding 顶 (to order)

ueng (uen) spelt as weng when used in a syllable as in 'dong' 东 (east)

iong /yj/ as in 'qiong 穷' (poor)

CONTRASTIVE ANALYSIS OF THE SEGMENTAL PHONEMES OF STANDARD IGBO AND MANDARIN CHINESE

Differences and similarities.

The standard Igbo has 28 consonants while Chinese has 21. Through this study, we found out that there are certain phonemes that are lacking in Igbo and vice versa. It can be observed that whereas Igbo has the following

/x dʒ ɲ ɳ w j w kp gb kw gw/ which is lacking in Chinese. Chinese on the other hand has aspirated segments such as /p^h t^h k^h ts^h tɕ^h tʂ^h / and retroflex segments /ʂ tʂ tʂ^h / which Igbo lacks. Igbo has eight (8) vowels whereas Chinese has 36 finals (six simple or basic finals, 13 compound finals and 17 nasal compound vowels) .

The Igbo vowels are divided into wo group (+ART) and (-ART) according to the size of the pharyngeal cavity. This is not so for Chinese which has 8 (eight) diphthongs which do not exist in Igbo vowels.

Also Chinese has 16 (sixteen) nasal vowels/finals as indicated above, these are absent in Igbo because Igbo vowels can only be phonetically nasalized when they co-occur with nasal consonants.

In terms of similarities, we observe that the Chinese phonemes such as;

/p b t d k m n f s l // have their counterpart in Igbo.

Also from our observation, some of the vowels (light vowels) in Igbo are also present in Chinese simple finals / I e a u o/. these did not bring about learning difficulty as the students only have to positively transfer what they already know from their L1 to the target language.

IMPLICATIONS FOR IGBO SPEAKERS LEARNING CHINESE

Through this study, we found out that the bulk of the problems which Igbo Chinese learners encounter is as a result of the differences in the phonemic inventories of the languages in question. Igbo students learn Chinese against the background of their mother tongue. This agrees with Fries (1945:9) that the habit formed by the learner in his first (L1) language plays a major role in his second (L2) language learning.

It is observed that those Chinese phonemes which are not found in Igbo would definitely constitute pronunciation problem for the Igbo learners of Chinese, as they would often negatively transfer sound from Igbo into Chinese by substituting the unfamiliar Igbo phonemes. This naturally results in pronunciation error on the part of the Igbo learners of Chinese.

i. Aspirated sounds

Chinese has aspirated sounds which do not occur in Igbo, they are often difficult for Igbo Chinese learners because the sound do not exist in their language.

Such sounds as /p^h t^h k^h ts^h tch^h ts^h/ in such words as;

Pengyou 朋友 /ph/ /p/ (friend) →
(ph engyou) (pengyou)

a. Ta 他/她/它 → /th/ /t/ (he/she/it)

/tha/ /ta/ →

b. Kou 口 /kh/ /k/ (mouth)

/khou/ /kuo/ →

c. Ci 词 /tsh/ /s/ (words)

/tsh/ /si/ →

d. qing /tch/ → /ts/

/tch/ /ts/ →

e. Chukou 出口 /tsh/ → /ts/

/tshukou/ /tsukou/ →

In the production of the above sound segments, the Igbo students simply substituted the sounds they feel are closest to the aspirated sounds in Igbo. This is because the aspirated sounds found in Chinese are lacking in Igbo.

The students learning Chinese should be made to realize that the aspirated segments are produced with more strongly expelled breath between the release of the sound and the onset of the following voiced segment (clerk et al 2007).

ii. Retroflex Sounds

These sounds do not occur in Igbo so they constitute pronunciation problem for the Igbo students learning Chinese. This leads to pronunciation error as in the following:

a. Sheng 生 (to be born) /sɔj/ → /seg/

b. Zhong 中 (middle) /tsoj/ → /dzɔj/

c. Re' 热 (hot) /re/ → /re/



For the students to overcome this problem. The Chinese teacher should pay attention and make them know that in the production of retroflex sounds, they should curl back the tip of tongue to articulate with that part of the hard palate, just behind the alveolar ridge. Also, the manner of fricative must be articulation must be appropriate, hence, retroflex fricative must be articulated in a way that there is a little opening between the articulators to allow airstream move out with friction. For retroflex affricates, the airstream is trapped following the complete closure of the vocal cord/tract by the articulators, the articulators are more gradually released when compared with the release of the closure for plosives (Gimson 1980 cited in Eme & Odinye (2008).

iii. Similar Consonants

These are sound segments that have their correspondences in Igbo. These include /p b t d k m n f s l/. Their production of such words as:

- a. Bu 不- no
- b. Dui 对- yes
- c. Kan 看-see
- d. Mama 妈妈-mum
- e. Lai 来 -come etc did not constitute any problem for the students for the reason stated above. The Chinese teacher only need to emphasize the need for the Igbo Chinese learners to positively transfer the habit of the production of these sounds into the target language (TL).

iv. Vocalic Phonemes

In contrasting the vocalic phonemes of Igbo and Chinese, we observed that Chinese has a total of 36 (thirty six) finals while Igbo has only 8 (eight). The implication for Igbo students learning Chinese is that they find it difficult to grapple with the myriad of finals replete in the Chinese vocalic inventory.

DIPHTHONGS

v. Chinese has diphthongs which do not exist in Igbo. These sounds cause difficulties for Igbo learners of Chinese. The implication is that the diphthongs and their sequential finals are not given their full values during articulation which often result in vowel simplification' as in the following examples:

- a. Youyong (swimming) → youyong
- b. Replacement of 'ou' with 'o' and 'ong' with 'o'
- c. Biǎozhen (injection) → biaozen replacement of 'iao' with 'ia' and 'en' with 'e'.
- d. Xiǎode (to know) → Xiade
- e. Replacement of 'iǎo' with 'ia'.

Vi. Nasal Vowels

Chinese has nasal vowels as noted above which are absent in Igbo. In Igbo words can only be phonetically nasalized when they co-occur with nasal consonants.

The implication is that the Chinese learners have difficulty with the pronunciation of these words with nasal vowel:

- a. Fan 饭 – (meal)
- b. Lian 连 – (to connect)



- c. Gen 跟 – (root)
- d. Jin 尽 – (only)
- e. Mang 忙 – (busy).

Vii. Vowel Harmony

From the above observation the Igbo vowels are divided into two groups: (+ ART -and (-ART), according to the size of the pharyngeal cavity. This poses a lot of learning difficulties to Chinese learners of Igbo as they cannot make distinction between the following two groups of vowels.

SET A

(- ART)

(I A U O)

SET B

(+ ART)

(I E U O)

In other words Chinese do not have vowel harmony system. They may find it difficult to pronounce such words as;

- f. Aho – year
- g. Ogu – fight
- h. Oku – fire
- i. Okuku – chicken
- j. Akwukwo – book etc.

Viii. Simple finals

From our observation some vowel segment like the Chinese, simple finals are also present in the Igbo light vowels. The implication is that these may not constitute pronunciation problems for learners of Chinese as they have to positively transfer the habit of the production of these sounds into Chinese in words with these vowels:/ i e a u o / Found in words such as:

- a. Ji 机 – machine
- b. Ye 也 – also
- c. Ya 呀 – tooth
- d. Yu 与 – and
- e. Mo 莫 – en

From the above pedagogical implications of similarities and differences between Igbo and Chinese segmental phonemes, it is pertinent to point

out that the areas where the two languages are similar do not pose learning problems, but rather the areas where they are different that constitute learning difficulties to the students. The central goal of the contrastive analysis hypothesis is to expose learning difficulties in learning their target language (T L); this will in turn enable the Chinese language teacher to highlight these difficult areas in order to ease their learning problems.

SUMMARY AND CONCLUSION

This study has compared the segmental phonemes of standard Igbo and Mandarin Chinese in order to know their differences and to predict the problems learner of both languages will encounter in learning any of the languages.



Through this study we find out that the bulk of the difficulties which learners encounter emanate from differences in the phonemic inventories of the two languages in question. The learners learn both languages against the background of their mother tongue. The learners may find the following areas of phonology in either language difficult to articulate.

1. Aspirated sounds

Chinese language has aspirated sounds that Igbo lack, which pose a lot of problems for the learners of the Chinese language. The Igbo students learning Chinese often substitute the aspirated sounds with their plain counterparts in the language or simply replace them with ones that are closest in terms of articulation (examples in chapter four) e.g. /T^h/ → /T/.

2. Retroflex sounds

These sounds are also found in Chinese but lacking in Igbo. This also led to error in pronunciation because of their manner of articulation.

e.g. /s/ → /ʃ/

/tʃ/ → /dz/ etc (see above)

3. Nasal sounds

Chinese has nasalized finals not found in Igbo which cause learning difficulties for Igbo students learning Chinese.

4. Vowel Harmony

Igbo vowels obey the role of vowel harmony which is not so for Chinese. This makes it difficult for Igbo Chinese learners to differentiate between the two sets of vowels in Igbo.

5. Diphthongs

Chinese has diphthongs final which Igbo lacks. This results in under articulation of vowels and vowel simplification (refer to data analysis above). They end up pronouncing Xia instead of Xiao i.e /iao/ → /ia/.

6. Nasal sounds

Chinese has sixteen (16) nasal vocalic segment which are absent in Igbo which constitute learning difficulties to Igbo Chinese learners.

However, there are cases of similarities which do not bring about difficulty in learning for the students but rather enhance learning. This is evident in the following.

7. Similar consonant

These are sound segments that are found in Chinese with corresponding segments in Igbo they are; /p b t d k m n f s l/.

8. Simple finals

Chinese simple finals are eight (8) in number and are also present in Igbo as light vowel. The implication is that they do not constitute learning difficulty to learners of both languages as evident in the examples listed in the Chapter 4 above.

In conclusion, the goal of this study is to contrast the segmental phonology of standard Igbo and Mandarin Chinese and to predict some difficult areas in the learners of the languages under study may encounter while learning or speaking any of the languages going by what we have done so far, these objectives have been achieved.

We have succeeded in bringing out the similarities and differences between the segmental phonology of the two languages we have made predictions on possible learning difficulties for Igbo learners/speakers of Chinese, it is hoped that this study will wake further intensive research in Igbo and Chinese studies given that the learning/teaching of Chinese is relatively a new area in Nigeria.



Also, it is hoped that the data gathered from this study be developed into learning materials to equip the teachers and students in teaching and learning both languages respectively.

There is a need for the language teachers to pay more attention on those areas that are difficult for the students, correct pronunciation of Chinese sounds can be achieved by the use modern ICT-based educational media, bilingual dictionary. Also, the learners should actively participate in the learning process to overcome areas of difficulties, since learning involves four universal skills which are: *egemnti*, *tingli* 听力 (listening), *'okwu'ku'*, *kouyu* 口语 (speaking), *'ogu'gu'*, *yue'du* 阅读 (reading) and *'odi'de*, *tin'gxie* 听写 (writing).

It is hoped that this work will give insight to the curriculum writers and education planners and motivate research in the area of the orthography of the language. We advocate that the ministries of education in Nigeria and china should explore ways of improving and sustaining Igbo and Chinese studies. A good example is the scholarship exchange program in Confucius Institution (C I) at Nnamdi Azikiwe University, Awka.

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