CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The field of language learning is dynamic and, so, new discoveries are emerging. The Igbo language is not left out in this trend and, therefore, requires continuous efforts to make it retain its place as one of the major languages in Nigeria. There is also the need to make it attractive as a medium of communication even on a global scale. Maduka (2007) commented on the threat of modern European languages powered by colonialism and globalisation to the continuity of Igbo and other Nigerian indigenous languages. He surmised:

> Even though colonialism and globalisation have imposed western cultural values on Nigerians especially through the use of English and French as national languages, the Igbos should not fall victim to the glamorous economic and political benefits accruing from the knowledge of these languages by dispensing with the use of their mother tongue in various situations in society. They have to imitate the various people of the world for their languages' survival and rescue (p.15).

One of the most distinctive characteristics which set humans apart from other creatures is the highly evolved mode of communication termed language (Badiyani, 2008). Language serves as a tool for conveying functional meaning through interaction and communication. Each generation modifies, changes and adapts its language so that at any point in time, the language remains a cultural institution developed by a community, for the use or service of that community (Puloka,

2000). Adopting a new identity can be expressed as the gradual loss of unique cultural traits and the imitation of a foreign culture (Dastigoshadeth and Jalilzadeh, 2011; Grimes, 2002; Brezinger & Graaf,2005). In view of the aforementioned, Crystal (1987) predicted that up to 90% of the worlds' languages may well be replaced by dominant languages by the end of the 21st century which would reduce the present number of almost 7,000 languages to less than 700.

It can be adduced that the main cause of this is poor perception of the importance of the mother tongue at home, school and the community at large. Sometimes, parents decide not to communicate with or allow teachers to teach their children in their mother tongues because they perceive an economic or educational advantage for their children in speaking a second or dominant language, in most cases English or French (Grimes, 2000). For example, in Ireland, English has displaced Irish in about 97% of the population. MacNamara cited in Ohiri – Aniche (1990) observed that attempts to re-teach Irish children their ancestral language in schools fail because children have little functional needs for Irish and also Irish is not taught in situations where it can be used. This may lead to the language becoming extinct.

A language becoming extinct does not necessarily mean that the people who speak it have all died, instead, the speakers may shift to a different language over one or more generations. Moreover, voluntary and, in some cases, forced migration of a language group to a location outside their traditional territory can cause a language shift and diminish the speakers' size. For example, when the United States, Russian and Canadian governments moved indigenous children into boarding schools, they insisted that they should speak only the national language in those schools. This resulted in those children being cut off from their native ethnic languages and cultures (Grimes, 2000).

Sometimes, a national language policy may cause some shift of language. An example is: when Tanzania became independent, the leaders decided to make Swahili their national language. For many years, they limited linguistic investigation and promotion to Swahili. Many individuals became more proficient in Swahili than they had been previously and some even use Swahili as their primary language (Brezinger & Graaf, 2005).

The number of Nigerian languages is put at about 397 (Crozier and Blench, 1992) and at about 527 (Lewis, 2009). Ikegbunam (2009) also gave a figure of 525 Nigerian languages. Hausa, Igbo and Yoruba are considered Nigeria's major languages due to their having speakers in excess of 18 million each, while the rest are referred to as minority languages. In addition, the country has English as its official language, and there are many ways and avenues for the children to learn the English language (Oyelami, 2008).Again, the situation remains that the English language which is the official language, is already entrenched in all the formal domains (education, government, commerce, media, etc). Igbo is the native language of Southeastern Nigerians. The Igbo language is estimated as having a population of between 18 and 27 million native speakers (Grimes, 2000; Lewis, 2009). Not all of these speakers however reside in the Igbo home areas. Before the contact with Western civilization, the Igbo people's language and a rich corpus of their literature were by and large, orally and verbally transmitted (Emenanjo, 1960). During its formative years in Igboland, Igbo made giant strides. But like any other Nigerian 'vernacular' it faced the buffeting of British prejudice which saw nothing good in the indigenous languages towards the education of the British governed Nigerian child. It regarded all indigenous languages as 'uncivilized', and both the 1882 Education Ordinance and pronouncements made by British colonials justified the issue (The Education Colony for Gold Coast, 1882).The Ordinance clearly stated that the subjects for teaching shall be reading and writing of English

language (The Education Colony for Gold Coast, op.cit).This preference of Igbo in favour of English accorded greater prestige and recognition on the English language due to political and economic reasons.

Nevertheless, there is every need to promote the learning of the Igbo language because it would promote viable opportunities for language immersion and acculturation for both Nigerians and foreigners, and for all Igbo both in the hinterland and in the Diaspora. The Federal government of Nigeria supports this in the NPE (2013) by stressing the importance of language as a means of promoting social interaction, natural cohesion and preserving culture. This is depicted during the National Youth Service Corp (NYSC) posting, whereby every Nigerian graduate would be posted to another part of Nigeria different from the area where he/she finished tertiary education to serve the country, for one year. Even in the NYSC orientation camp, primers containing languages for everyday use that would help the NYSC members to interact and integrate within the community during the community service are distributed to them freely. For example, if you are of non - Igbo origin and posted to Igboland for one year national community service, you would be given primers written in Igbo and vice versa.

Again, the ability to study the Igbo language and speak it well will create the much needed jobs that would yield the much needed revenue that would make one self- employed.This would necessarily contribute to national development (Anyanele, Okoye & Okanume, 2014) .The situation of promoting the learning of the Igbo language would also provide the younger generation opportunities of learning the language in schools, and would offer them employment as well. The Federal Government of Nigeria supports this by expressing that it is expedient that every child be required to learn one of the three major Nigerian languages: Hausa, Igbo and

Yoruba (1998). Thus, the view of every child being required to learn one of Hausa, Igbo or Yoruba is a laudable statement by the government in its effort to see that these languages are taught as second languages in Nigeria. This will contribute a lot to the production of graduates of Igbo needed in the labour market since various graduates of Igbo are needed for filling vacant positions left from time to time in different fields of life (Ani, 2012). Other positions for graduates of Igbo include culture officers, research assistants, administrative officers, writers and editors, broadcasters, fashion modelers, artistes, and so on.Better still, such graduates can teach Igbo online; as well as be employed in the Nigerian film industry- Nollywood. Nollywood employs more than twenty million Nigerians who act as actors, actresses, producers, distributors, promoters, marketers and are dominated by the Igbo. The graduates of Igbo can also belong to the music and entertainment industry just like Onyeka Onwenu, Oliver De Coque, Stephen Osita Osadebe, etc. They can even become translators and interpreters both nation wide and internationally. It could be deduced that the Igbo language learning has the potentials to create many jobs if well planned and undertaken by the native and non - natives of the Igbo language.

Due to its status, the Igbo language is taught and learnt in schools and in academic institutions (FRN 1998; 2004; 2013). Even though Igbo is now studied in the primary, secondary as well as the higher institutions of learning both at home and abroad, yet all is not well with it, as there are some set- backs recorded. A paucity of human and material resources and apathy of the Igbo people towards the language were major factors responsible for the slow development of Igbo as a language for modern education (Ubahakwe, 1977; Nwadike, 2002).

Many concerned stakeholders have put great efforts to improve the Igbo language learners' competence. However, the students' achievement in the Igbo language especially in national examinations (e.g. West Africa Examinations Council (WAEC) and National Examinations

Council (NECO) or any standardized tests has been far from satisfactory. WAEC (2012) reported that candidates' performance in French and Yoruba languages fluctuated, while performance in Hausa and Igbo languages dropped steadily within the 3-year period of 2010, 2011 and 2012.

Ohiri – Aniche (2008) found that most of the Igbo parents interviewed in Igboland and outside Igboland conversed with their children mostly in English or a mixture of English and the Igbo language. This has great implications for the home language of the Igbo families.The result is that an increasing number of children do not understand or speak Igbo, or do so with difficulty. This is particularly with children raised in families outside Igboland, including urban cities and Southwestern states of Nigeria. According to Linguistics Association of Nigeria (LAN) (2011), many schools ban the speaking of Nigerian languages in schools. This is deleterious both from the point of view of diminishing the opportunities pupils have to learn and speak their indigenous languages and also from the point of view of developing negative motivations about their indigenous languages. The above situations bring about the erosion of the functional roles of Nigerian languages (including the Igbo language) in the informal domain (especially in the home) which has important and remarkable consequences both for the long-term survival of indigenous languages as their home language, and, for the motivation of students in the classroom learning of these languages (Ohiri-Aniche, 1990; 2002; Jibril, 2003).

However, some language groups in the world are attempting to increase their speakers' population by publishing pedagogical grammars (with audio tapes, programmes on the radio and television, dictionaries, newspapers), organizing evening classes for adult literacy and having courses taught in schools and community colleges. These are yielding some successes in many cases.

The conviction, therefore, is that if there is a way out for some languages outside Nigeria, then, there should be a way out for the Igbo language at home. For instance, there are some Igbo language websites on the internet such as uwandiigbo@yahoogroups.com, Igbodeutch, Worldigbocongress@yahoogroups.,www.LearnIgboNow.com., www.youngigbos.com, ISA-L@gogglegroups.com. and more. Also, Microsoft has a programme for promoting local languages, such as Igbo:http//www/microsoft.com.. However, none of these is geared towards enhancing the teaching and learning of the Igbo language in the mainstream classrooms especially in relation to the content of the Junior Secondary School approved curriculum. Nevertheless, there is hope for Nigerian indigenous languages (the Igbo language in particular) if increased effort is put into in-depth literacy activities in those languages, and of course, with the support of technology.

Alexander and Busch (2007) stressed the importance of solid grounding of the learner in his/her indigenous language. Alexander and Busch suggested that children can learn to read and write in two or even more languages at the same time. Bilingual education was also recommended by Ateequ (2010) for controlling the decline in knowledge and use of indigenous languages.

Orji (2002) reported that academic achievement and language development of a child in Igbo depend to a large extent on home –related factor (parents' home language use). Orji advocated that parents should enhance their children's performance in the Igbo language through adequate enlightenment and the use of Igbo at home during interaction. Students' academic achievement is the process whereby students' educational activities are measured by examination within the context of curricular (Datol, 2005). Akinsola and Popoola (2004) noted that poor teaching leads to poor learning and poor learning leads to poor academic achievement. Ugwuanyi (1998) maintained the view that poor teaching is one of the factors that account for poor academic

achievement and high school dropouts. Ugwuanyi added that to reduce the persistent failure of students, the introduction of test and other methods of teaching/and learning are needed.

Learning achievement and language performance have been proven to be enhanced through the applications of Information and Communication Technologies (ICTs) (Chapelle, 2001; Gambari, 2010; Warschauer, 2001; Yusuf & Afolabi, 2010). ICTs have become an integral part of most educational landscape, and many educators in developing countries like Nigeria are cognizant of the benefits of integrating ICTs into learning (Adeoye, 2010). Adeoye added that the use of ICTs in education can facilitate effective teaching and learning. Adeosun (2010) also agreed with this view by pointing out that individuals are required to be efficient and effective ICT users to be successful in the continuously evolving and competitive economy of today that requires ICT skills and knowledge. According to Achukwu and Nnajiofor (2012), educational systems around the world are under increasing pressure by UNESCO to use the new Information and Communication Technologies (ICTs) to teach students the knowledge and skills they need in the 21st century.

Teaching all over the world is being supported with ICTs, and the use of computer in teaching and learning has been an effective means of enhancing academic achievement (Adekunle, 2006). Chapelle (2001) asserted that the use of computer technology in classrooms is generally reported to improve academic achievement and the mastery of basic skills. Chapelle added that it is also more student-centered and more active processing, resulting in better recall and gaining of confidence in directing students' learning for both language and non-language classrooms.

Recent research has shown that human language is much more complex than it was previously thought (Okonkwo, 2012). Montazeri and Hamidi (2013) added that computers play a pivotal role in the field of language instruction nowadays and Computer Assisted Language Learning

(CALL) is now an integral part of language learning classrooms. According to Rau, Yang and Dong (2007), applied linguists no longer question whether it is necessary to the use computer to assist in language teaching and learning but debate on how to effectively make use of this technology to enhance learning. The evolution of language teaching has traditionally been influenced by the advancement of new language teaching pedagogies and more recently, by technological changes of CALL which explore the potential of technology applications to language teaching (Hardisty & Wineatt cited in Basoz & Cubukcu, 2014).CALL is an approach to language teaching and learning in which computer technology is used as an aid to present, reinforce and assess the material to be learned which usually includes a substantial interactive element (Bax, 2003). Nonetheless, Bax cautioned that except for self-study software, CALL is meant to supplement face to face language instruction and not to replace it.

Also, Dhaif (1989) claimed that computers can never replace the 'live' teacher, especially in language teaching and learning, where the emphasis is on mutual communication between people. Moreover, Warschauer (2001) reinforced the aforementioned caution by asserting that CALL programmes can be a motivating tool that enhanced language students' learning interests; and also intended to make learning more effective rather than easier. Additionally, in utilizing CALL during learning, students must learn basic technology knowledge and skills to cut down their learning loads.

Informed by the reviews on the accrued benefits of CALL in language learning, this study, therefore, assessed the effect of CALL on the motivation and achievement of junior secondary school students in Igbo in the direction of improving their performance in Igbo and further motivating them to learn the language.

1.2 Statement of Problem

There is clear evidence that a great deficiency exists in the teaching and learning of the Igbo language at the junior secondary school level of education in Lagos State.This has been attributed to the traditional teacher – centred instructional mode which is prevalent in the teaching of Igbo; resulting in the unsatisfactory achievement of students in Igbo examinations and consequently, the lack of motivation to learn the language (Umo, 2001; Ohiri-Aniche, 2003; Omeje 2009 and Okodo, 2012). If this scenario continues unchecked, the Igbo language may gradually be moving towards extinction, coupled with the fact that urbanization and migration, which are very inevitable in the present era, have also put pressure on many Igbo families to bring up their children to speak English or the dominant language rather than Igbo. The trend has implications not only for the young generation of Igbo speakers, but also to the continuity of the Igbo language and invariably, its culture.

Again, the Nigerian National Policy on Education (NPE) emphasizes the importance of learning through the ICTs in the 21st century technology driven era. Yet, despite the popularity of ICT in educational institutions, little is known about the use of Computer Assisted Language Learning in teaching and learning of Nigerian languages especially Igbo. If the teaching and learning of the Igbo language are left with only traditional instructional techniques and materials while the teaching and learning of other languages like English and French continue to be assisted with computer, it is evident that the Igbo language would not survive extinction in this technology driven era. Therefore, there is a need to modernize the teaching and learning of Igbo through digital practice in order to maintain its status, preserve, and develop the language.

1.3 Theoretical Framework

As bilingualism and biculturalism have become increasingly valuable, educators have begun to look at how to help children develop and maintain greater fluency in their indigenous languages (Polinsky&Kagan,2007).There is a need to design a good multimedia courseware to enhance students' knowledge and assist them in the application of the newly acquired knowledge (Rogers, 2002).

The Nigerian junior secondary school students are familiar with different modern means of Information and Communication Telecommunication in the form of personal computers, digital cameras, IPADs, IPODs, phones, CD and DVD players and recorders by virtue of their school syllabus as well as their home backgrounds. Some of them even use their knowledge of computer to access e-mail, social networking tools, U – tube and net log. All the above could be related to different learning theories and techniques. But this study was anchored upon the two learner-centred theories, and the popular framework for L2 motivation describing their instructional principles and practices.

1. **Jerome Brunner's Social Constructivism (1990)**
2. **George Siemens's Theory of Connectivism (2005)**
3. **Role of Attitude and Motivation in L2 Learning model (Gardener, 2000)**

Jerome Brunner's Social Constructivism (1990)

This theory was propounded by Jerome Brunner (1990) and it focused on the actual classroom practices and use of ICTs that involves the teacher as the facilitator and the learners as the main centre of interest. According to Brunner, invention or creativity is the process of coming up with new knowledge on the basis of learners experience. In this theory, the learner used the

knowledge that he/she already acquired in getting new knowledge through the facilitator who is the teacher. This theory perceives knowledge as something that emanates from the learner.

Brunner (1990) recommends that, new knowledge may be found from that which one knows without changing its structure. The learner uses his/her experience or the previous information learned to construct new ideas or knowledge. The learner participates in all learning activities that determine his or her performance.The Constructivist strategies are called student- centred instruction because the emphasis is on the students as active learners. The teacher becomes the 'guide on the side' instead of the 'sage on the stage' (Brunner, op.cit.), helping students to discover their own learning instead of lecturing and controlling all classroom activities. Social constructivists recognize substantial interactions with resources and materials for language teaching and learning, and encourage 'hands- on' activities above all as well as 'minds-on' activities. The constructivist theory emphasizes that teachers are supposed to involve learners effectively in the learning and teaching process, and, not listening and implementing what they hear from their teachers. It is the responsibilities of teachers to use their skills effectively to involve learners so as to enable them understand what they are taught. Social constructivists appreciate unique contribution of individual human minds as well as essential aspects of a supportive social environment in the construction of shared meanings. It is important that learners should be provided with multiple representation of reality together with authentic tasks. The teacher needs to give room for students' interaction in order to bring about shared meanings.

The learning environment should be designed in such a way as to support and challenge learner's thinking.

Jerome Brunner's Social Constructivism highlighted that:

- The explanations proffered must be thoroughly convincing to make the students discard their old ideas about poor perceptions concerning the language in order to make them be dissatisfied with their prior conceptions.
- The new knowledge must be intelligible and must sound believable.
- Students should be engaged in tasks that could make them to apply their knowledge.
- Students should be encouraged to reflect on the newly acquired knowledge by the use of feedback activities.

Social Constructivism theory is applicable to this study because students are encouraged to solve problems on their own instead of the teacher providing them with the answers during the CALL Igbo language classroom instruction. In the CALL instructional classroom, some topics taught by the teachers were selected from the recognized Unified Schemes of Works and have already been programmed in the computer to give direction during interaction. The student uses his/her computer knowledge to receive messages, something that involves and enhances interaction.Students were also encouraged to understand difficult concepts by using demonstrations and pictures as they interact with their computers and the developed CALL intervention package (ILLMuPac). Since learners have different personalities, general aptitudes and knowledge of a subject area, they would progress at different rates and were supported by independent study. Activating students' prior knowledge of computer which they acquired during computer education classroom learning and purposefully connecting contents in the Igbo language classroom is extremely important and was integrated within this framework. Modules and activities were organized in the developed CALL intervention package so that the students

continually building upon what they have already learned. When interest is associated with learning, the information would be remembered and applied in real life experiences.

This view has profound implications for teaching the Igbo language as it suggests a far more active role for students in their own learning than is typical in many traditional Igbo language classrooms. In teaching, the approaches used by teachers contribute greatly to the outcome of the learners in class and also their future life. Therefore the responsibility of the teacher is to make sure that learners get knowledge by incorporating new approaches such as CALL in their teachings so as to improve the students'results in the Igbo language. This would enable learners to communicate and interact effectively in class and be able to face their real life independently.

All these could be effectively explored in the application or integration of CALL in the Igbo language learning processes.

George Siemen's theory of Connectivism (2005)

This theory was used to explain the effect of technology on how humans live, communicate and learn. It combines the relevant elements of many learning theories, social structures and technology to create a powerful theoretical construct for learning in the digital age (Perrin, 2005). This theory makes use of a network with nodes and connections as a central metaphor for learning. A node as was explained is anything that can be connected to another node: information, data, feelings, images. According to Siemens (2005):

Learning is a process that occurs within nebulous environments of shifting core elements- not entirely under the control of the individual.

> This learning defined as actionable knowledge can reside outside of humans within an organization or a database, is focused on connecting specialized information sets, and connections that enable humans to learn more, are more important than the current state of knowing (p.4).

Some of the principles of connectivism identified by Siemens are:

- Learning may reside in non-human appliances.
- Learning is a process of connecting specialized nodes or information sources.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alteration in the information climate affecting decision.
- Siemens asserted that 'the pipe is more important than the content within the pipe'. This implies that the ability of humans to learn what is needed for tomorrow is more important than what is known, and imbibing learners with lifelong skills is more crucial than equipping them with knowledge (p.6)

Downes (2007) asserted new meaning for teaching and learning in connectivist theory as 'to teach is to model and demonstrate; to learn is to practice and reflect' (p.5). Ally (2002) added that connectivism is a more appropriate learning theory for digital age than older technologies such as behaviourism and cognitivism. Ally maintained this position on the idea that the world has changed and become more networked, so learning theories developed prior to these global changes are less relevant.

The connectivism theory is applicable to this study because learning could reside in non-human appliances – the computer, the developed CALL intervention package, CDs andDVDs; and so on. The Igbo language student's ability to learn what he/she needs for tomorrow is more important than what is known, students were provided with CALL intervention package and

other technology tools to help them acquire the needed information concerning the Igbo language. The students learnt, practiced as well as reflected on what they have learnt. Here, the students acquired knowledge and experiences from the non-human appliances-computer and other CALL materials and tools which would help them to imbibe ICT as part of their life in the technology driven era. They could easily use their acquired knowledge in learning other subjects which might also improve their performances as well.

Gardener's Role of Attitude and Motivation in L2 Learning model (2000)

This model was used to examine students' motivation in the study of language. Gardener's (2000) model focuses on motivation and language attitude as the two most influential determinants of language achievement. It shows how integrative and instrumental motivations affect language and classroom learning which ultimately affect language achievement. Again, this model predicts that learner's attitude and motivation could affect language and classroom learning. Motivation in this model is defined as the extent to which the individual works or strives to learn the language because of a desire to learn the language and the satisfaction experienced in the activity. A 'motivated learner' is therefore defined as one who is (a) eager to learn; (b) willing to expend effort on the learning activity , and (c) willing to sustain the learning activity (Gardener, 1985) .

This model is applicable to this study because motivation plays a significant role of mediating any relationship between the Igbo language learning of the students and their Igbo language achievement. In this context the Igbo language which is actually one of the major Nigerian languages, as well as first language (L1) for the Igbo is taken to be a second language (L2).This is because the students, just like other children of Igbo families born and brought up in urban cities and the diaspora, are influenced by the language of the environment and the Nigerian

official language- the English language. These students could no longer speak the Igbo language or do so with difficulty (Ohiri- Aniche, 1990; Jibril, 2003). Thus, Igbo is now being encountered in the classroom in urban cities as a second language (L2). Gardener and Smythe (1981) developed a self report questionnaire called Attitude/Motivation Test Battery (AMTB) tool to measure the five attributes associated with language learning. These attributes include integrativeness; attitude towards the learning situation; motivation; language anxiety; and instrumental orientation (Ushida, 2005).

However, four of these attributes were applicable and assessed in this study by some items in the questionnaire.

- Integrativeness: (attitude towards Igbo, interest in the Igbo language).
- Attitudes toward the learning situation: (Evaluation of the Igbo teacher, evaluation of the Igbo language).
- Motivation: (Desire to learn Igbo, attitudes towards learning Igbo, motivational intensity)
- Language anxiety: No items
- Instrumental orientation (improvement in achievement, to get employment).

This study highlights the values and potentials derivable not just from a learning scenario that involves active participation of students but also from one where the teacher takes great interest in the students' academic growth and constantly gingers the students to work and deploy their innate potentials through various activities. The developed technology – enhanced approach could be used as supportive framework both for teachers and learners in the teaching and learning of the Igbo language in the Nigerian secondary school.

1.4 Purpose of the Study

The study assessed the effect of Computer Assisted Language Learning (CALL) and the impact on motivation and achievement of junior secondary school students (JSS) in Igbo in Lagos State, Nigeria; and to develop and utilize a Computer Assisted Language Learning (CALL) intervention package to enhance instructional modes of the Igbo language at JSS level.

Specifically, the study has the following objectives:

1) To determine the effect of the CALL intervention package on experimental subjects' motivation to learn Igbo.
2) To determine the effect of the CALL intervention package on students' achievement in Igbo language.
3) To ascertain the effect of the CALL intervention package on students' reading and writing in Igbo.
4) To determine the interaction effect of the CALL intervention package and the students' language of the home on the students' achievement in Igbo.
5) To investigate the prevalent instructional strategies in teaching Igbo at the junior secondary school (JSS) level.
6) To investigate the level of ICT competence of the Igbo language teachers.

1.5 Research Questions

The following research questions were raised for the study:

1) Will there be any differential effect of the CALL intervention package on the experimental subjects' motivation to use it in learning the Igbo language?
2) To what extent has the CALL intervention package made a difference on the post –test achievement scores of students in Igbo?

3) What difference has the CALL intervention package made in students' reading and writing in the Igbo language?

4) What interaction effect has the CALL intervention package and the students' language of the home on the students' achievement in Igbo?

5) What are the prevalent instructional strategies in the teaching of the Igbo language at the JSS level?

6) What is the ICT competency level of the Igbo language teachers?

1.6 Research Hypotheses

The following research hypotheses stated in the null form have been formulated to direct this study.

Ho_1: There is no significant effect of the CALL intervention package on the experimental subjects' motivation to learn the Igbo language.

Ho_2: There is no significant effect of the CALL intervention package on students' achievement scores in Igbo.

H_{O3}: There is no significant effect of the CALL intervention package on the students' reading and writing in Igbo.

H_{O4}: There is no significant interaction effect of the CALL intervention package and students' language of the home on their achievement in Igbo.

1.7 Significance of the Study

Almost all of the reviewed studies showed CALL conducted on foreign languages; first and second language learners of English and French languages and not on the Igbo language learners. Therefore, it is hoped that the outcome of the study would enhance the Igbo language teachers' understanding of how to teach Igbo from the student-centred perspective in order to motivate the

students to learn Igbo as well as enhance their performance in the language. Therefore, it would help those who are involved in the education process such as textbook writers (authors), curriculum designers and other stakeholders interested in sustaining the Igbo language and culture to gain new insights concerning computer assisted language learning experience among the secondary school students who are learning Igbo and would seek to improve it over time.

The study would alert the educators, teachers, administrators and curriculum developers to immediately pay attention on how to improve the Igbo language teaching and learning in the secondary schools. They must be keen to discern the appropriate approach to teach the Igbo language to Nigerian secondary school students of Igbo in order to improve their knowledge of Igbo and achievement in the subject so as to meet the international demands, and be able to fully and successfully participate in the international community in this 21st century technology driven era.

The study is significant in that it has proffered a CALL intervention package that would help to improve the academic achievement in Igbo of the junior secondary school students.

It would also help the teachers and the educators to improve on methods of teaching and provide students with various language learning activities and tasks with opportunities to learn by doing.

Constructivism, one of the learning theories on which this study is based is learner-centred and associated with teaching approaches that promote active learning or learning by doing. Thus, this study highlights the importance of learners being actively involved in the learning processes.

Furthermore, the information gathered in this research would also be beneficial to the Igbo language learners. This is because this research may change and improve their perceptions and motivation towards learning the Igbo language. In addition, secondary school students of the

Igbo language may be motivated to learn the Igbo language using computers which would help to develop their Igbo language skills and positive attitude towards the language.

The discussion of the findings of the research would contribute to the growing body of literature on the subject and would be of relevance to the Igbo language researchers especially in Lagos State and other parts of Nigeria where Igbo is being taught, since it is obvious from the literature that teaching and learning of language using CALL is an international phenomenon.

1.8 Scope of the Study

The scope of the study covered only Junior Secondary School II students (JSS II) studying Igbo in Lagos State, Nigeria.

This study was limited to the identification of the content of software packages of lessons, taken from the stipulated topics in the Igbo curriculum for JSS II in the State. This was used to enhance the teaching and learning of the Igbo language in the JSS II.

It also evaluated the contribution of computer assisted language learning in improving academic achievements and development of language skills of JSS II students in the Igbo language. It also helped to evaluate the impact of computer assisted language learning on motivation to learn Igbo among JSS II students.

1.9 Operational Definitions of Terms

The following terms are defined in order to present a consistent and standardized approach for interpretation of terms used in this study:

Activity: This is an exercise designed to be done after learning each module of lessons. It is used to test the level at which the student understands and comprehends the lesson learnt by both the experimental group.

Academic performance Tests: This refers to the standardized tests given to the students to ascertain their level of intelligence pertaining to the questions asked. This was done by using paper- pencil procedure.

Computer - Assisted Language Learning (CALL)*:* This refers to the use of computer as a key component of the educational environment. In this study, this approach to language teaching and learning was used as the situation of enhanced language learning environment where only computers are used without internet connectivity and is termed **standalone** or non-web-based approach of learning.

Conventional method of Instruction (CMI)*:* This is face – to –face teaching and learning where the teacher remains the sole organizer, possessor and transmitter of knowledge. Learners are normally passive; they just listen, remember and follow the educator's instructions.

Igbo culture – This refers to those topics stipulated on the junior secondary school Igbo curriculum that deal on different aspects of way of life of Igbo people like family and its components ;greetings; marriage; age –grade; and so on.

Minority language: Any other Nigerian language excluding Hausa, Igbo and Yoruba which is used within Nigeria, or any geographic area of Nigeria.

Model/approach: This is a framework which states the rationale, and objectives for the ILLMuPac intervention programme as well as specifications about content, methods, techniques and procedures to be adopted for teacher- pupil activity in the pursuit of some learning goals.

Motivation: The situation of arousing the interest as well as holding the attention of the students which would urge them to expend their effort to learn the Igbo language. This might lead to the improved achievement in Igbo. Thus, motivation can be because of what the students want to benefit, or having the intention of relating with the Igbo.

***Multimedia**:* This refers to learning technologies that involve the whole range of audio, visual, text, and graphics media, integrated into a package that has been effectively designed from an instructional point of view.

Igbo native speaker: An individual whose parents are of Igbo origin and he/she speaks the Igbo language as a first language.

***Stimulus Instrument**:* This is the ILLMuPac, a CALL intervention package given to the students in order to note and record their reactions when they are learning with it.

Response Instrument: This entails pen and paper items given to students to indicate and write down their answers as demanded by each item.

Task: This is an activity designed for the attainment of a particular learning goal. This is used to test the level at which the student understands and comprehends the lesson learnt by both the control and experimental group.***The Igbo*** **–**This refers to the people original to the South eastern part of Nigeria, and in the recent years, are mostly found in all the five states of Igboland- Abia, Anambra, Ebonyi, Enugu and Imo- as well as in parts of Delta and Rivers States. They have the Igbo language as their native language.

Traditional instructional techniques: The researcher takes these strategies to mean those centred on the teacher and also considers the latter as the sole organizer, presenter and possessor of knowledge. The strategies encourage memorization and rote learrning. Learners are passive in class for they merely listen and follow the teacher's instructions. These strategies promote the regurgitation of received information

CHAPTER TWO

LITERATURE REVIEW

2.0 Preamble

This chapter presents the review of related literature discussed under the following headings in line with the focus of the study:

2.1 Constructivism Theory in Teaching and Learning

2.2 Constructivist View of Using Technology in the Classroom.

2.3 Motivation and Language Learning.

2.4 Status of the Igbo Language

2.5 Students' Perception and Motivation to learn the Igbo Language.

2.6 Nigeria's Language Policy and Implementation

2.7 Teaching Strategies for Classroom Instruction.

2.8 Academic Achievement.

2.9 Role of ICT and changing nature of pedagogy.

2.10 Concepts of Computer Literacy Competency (ICTs Skills Competence).

2.11 Computer Assisted Language Learning (CALL)

2.11.1 Theory and Application of CALL

2.12 The Use of CALL for Teaching Language Skills

2.12.1 CALL and Listening Skill

2.12.2 CALL and Speaking Skill

2.12.4 CALL and Writing Skill

2.12.4 Impact of CALL on Language Teaching and Learning

2.13 Teachers' Preparation for and use of CALL

2.13.1 Teachers' Barriers to use of CALL

2.1 Constructivist Theory in Teaching and Learning

This has many variants due to the fact that it is a way of conceptualising knowledge and the process of the acquisition of knowledge. It is an approach in philosophy, education and science which argues that knowledge as a justified belief undergoes construction and reconstruction by an individual from experiences, observations and interactions in a social setting until understanding and meaningful learning is facilitated. Some classifications of variants of constructivism are rooted and well- conceived in the literature and they include: radical, social, cognitive, communal, pragmatic, critical and human constructivism (Hmelo – Silver, Duncan & Chinn, 2007; Kincheloc, 2005; 2008; Novak, 1993, Piaget, 1967; Slezak, 2000 and Von Glaserfield, 2001).

What are some guiding principles of constructivist thinking that must be kept in mind when considering certain roles as educators? Hein (1991) outlines few ideas, all predicated on the belief that learning consists of individuals' constructed meanings and then indicate how they influence language learning and education:-

- *Learning is an active process:*

In this process, the learner uses sensory input and constructs meaning out of it. The more traditional formulation of this idea involves the terminology of the active learner (Dewey's term) stressing that the learner needs to do something; that learning is not the passive acceptance of knowledge which exists "out there" but that learning involves the learners engaging with the world.

- *Learning is contextual*

Humans do not learn isolated facts and theories in some abstract ethereal land of the mind separate from the rest of our lives. We learn in relationship to what we know, what we believe, our prejudices and our fears. On reflection, it becomes clear that this point is actually a corollary of the idea that learning is active and social. We cannot divorce our learning from our lives.

- *Motivation is a key component in learning*

Not only is it the case that motivation helps learning, it is essential for learning. This idea of motivation as described here is broadly conceived to include an understanding of ways in which the knowledge can be used. Unless we know 'the reasons why', we may not be very involved in using the knowledge that may be instilled in us even by the most severe and direct teaching. This is true that experiential learning facilitates the effective acquisition of knowledge; however, keeping in view the unique characteristics of human brain, it cannot be safely said that each learner passing through a similar experience will learn at the same level and speed.

2.1.1 A Constructivism View of Using Technology in the Classroom

Constructivism emphasizes on the acquisition of knowledge and that knowledge is not accumulated or received, but rather acquired through the active process of learning between learners and their physical social surroundings. This knowledge is further shaped by learners' ability to constantly form different mental concepts and pictures of their newly acquired knowledge (Ma, 2007).Thus, the more students participate in the lesson, the better they will perform. They benefit from learning by doing and learn through increased interaction and independent time for learning.

In the constructivist environment, the student is in the centre of the learning process, the one who constructs knowledge and meaning, linking incoming or new knowledge and information to existing knowledge. The teacher provides or facilitates the environment for relevant learning by creating whole, authentic, inherently interesting activities and by setting up multiple representations of reality

and actual experience for students, thus enabling them to construct their own knowledge. Typical activities for such an environment are investigation, discussion, dramatizing, exploration and negotiation.

The use of technologies could facilitate the implementation of a constructivist approach (Jonassen et al, 1999 cited in Kim, 2008) and assist individual learners in constructing their knowledge and expanding their perspectives. CALL met the needs, methodologies and materials that rely on the use of interactive multimedia to integrate language skills (listening, speaking reading and writing), and to achieve lesson objectives; provide authentic learning experiences; offer learners control over their learning and also focus on the content (Tsai, 2010; Warschauer,1996).

2.2 Motivation and Language Learning

Gardner (2005) proposed that motivation and ability are two important factors associated with achievement in school. Motivation theories in general are explained in three interrelated aspects of human behavior: the choice of a particular action, persistence with it, and effort expended on it (Dörnyei, 2007). It is one of the crucial keys to language learning since motivation explains why people decide to do something, how hard they want to pursue the goal, and how long they are going to sustain the activity (Dörnyei, 2001). MacIntyre, Macmaster and Baker (2001) defined motivation as an attribute of the individual describing the psychological qualities underlying behaviour with respect to a particular task. This goal-directed behaviour shows itself through distinct actions of the motivated individual. Dörnyei(2003) described explicitly that the motivated individual expends effort, is persistent and attentive to the task at hand, has goals, desires and aspirations, enjoys the activity, experiences reinforcement from success and

disappointment from failure, makes attributions concerning success and or failure, is aroused, and makes use of strategies to aid in achieving goals.

This statement portrays motivation as primarily being internally driven; however, there are also external forces that play the role of motivation. It was believed that motivation should be viewed as an internal attribute that is the result of an external force (Gardener, 1996 cited in MacIntyre et al., 2001). The significance of its role in language acquisition has been realized. Gardner (1985, cited in Dörnyei 2003) added that individuals who are truly motivated always strive to learn the language as well as seek out situations where they can obtain further practice. The challenge is to examine what drives this motivation. The most important and well-researched components of internally driven motivation fall under the broad category of self-determination. This includes the concepts of integrative, intrinsic and instrumental motivation. Gardner (1985) also supported the position that an integrative orientation refers to that class of reasons that suggest that the individual is learning a language in order to learn about, interact with or become closer to that target language community.

Integrative motivational orientation concerns a positive interpersonal/affective disposition toward a particular language group and the desire to interact with and even become similar to valued members of that community. It implies openness to, and a respect for, other cultural groups and ways of life. The question is how exactly does this integrative desire promote language learning? Masgoret and Gardner (2003) stated that individuals who want to identify with a particular language group will be more motivated to learn the language than individuals who do not. This explains why immigrants who arrive in a country against their will because of war or political problems often do not show the same rate of language acquisition as their fellow

countrymen who voluntarily left their homeland. However, even in negative situations like incarceration abroad, if the desire to integrate with the surrounding people is strong enough, language acquisition will occur. How could a person who had spent more than 30 years of her life speaking one language claim that within 12 months of being incarcerated, she was not only forgetting her native language, but the cultural identity associated with it as well? In reality, the second language begins to replace the first. In this context it should be simply stated that the languages of the environment where junior secondary school Igbo students' reside seem to be more important to them than their native language.

Baker and MacIntyre (2000) believed that the mastery of a particular language involves taking on the identity and culture of the target language to a certain degree. An extreme case of successful integrative motivation can occur in the real world, but similar accommodations must be made by language learners who are only exposed to target languages in the classroom.

Masgoret et al. (2003) opined that the integrative motivated student is one who is motivated to learn the target language, has openness to identification with the target language community, and has favourable attitude toward the language situation. The language student must be willing to adopt appropriate features of behaviour, which characterize members of the target language linguistic community.

Instrumental motivation has also been found to play an important role in the classroom. Gardner and MacIntyre (1995) supported that instrumentally motivated students studied longer than non-instrumentally motivated ones when there was an opportunity to profit from learning. In a study by Gardner and Lambert (1972) of Tagalog speaking Philippinos, it was found that students who approach the study of English with an instrumental outlook are clearly more

successful in developing proficiency in the language than those who fail to adopt this orientation. Gardner and Lambert added that apparently, when there is a vital need to master a particular language, the instrumental approach is very effective. Gardner and Lambert's studies in Quebec revealed the successful learning of French by English speaking students who focused on obtaining a credit in language and getting job promotions

Intrinsic motivation is another significant variety of self-determined motivation. Walqui (2000) defined it as a factor related to basic human needs for competence, autonomy and relatedness and are those activities that the learner engages in for their own sake because of their value, interest and challenge. According to him, being intrinsically motivated to learn improves the quality of learning and those conditions that are autonomy and will promote more effective learning as well as enhanced intrinsic motivation and self-esteem.

Noels (2001) supported that intrinsic orientations refer to reasons for a particular language learning that are derived from one's inherent pleasure and interest in the activity. He added that basically, the more students enjoy learning the target language, the more successful they are at it, and the better they feel about the task.

Gardner (1985 as cited in Dörnyei 2003) de-emphasized the teacher's role and placed more emphasis on the student when he stated that:

> Motivation is a total state of the individual, not just a simple interest in the language nor a drive to learn some specific material pertaining the language because of some environmental pressure such as an examination or a desire to please a teacher or parent (p.11).

There are many reasons for motivating individuals to learn a particular language that perhaps no one cause or type of motivation can possibly serve as the sole foundation of language learning.

Noels (2001) advised that in addition to the major players of integrative and instrumental motivation in language learning, people may wish to learn a particular language for many reasons, including intellectual stimulation, showing off to friends, a need for academic achievement and interest, curiosity, a desire for assimilation, travel, friendship, knowledge, prestige, career, school admission, media, national security or any combination of these. It is succinctly seen that many of these involve overlapping integrative, instrumental, intrinsic and social motivations.

2.2.1 The Impact of Motivation on Student Achievement

Proper motivation leads to good achievement and high productivity, and so the impact of motivation on students' achievement cannot be over emphasized for effective learning (Tella, 2007)**.** They are as follows:

The behaviour of a motivated student is selective in nature. This behaviour is directed towards a selective goal which the individual sets for himself. In such a situation, the student's action or behaviour does not move in a haphazard manner instead, it is being directed towards the achievement of selective goals which the individual sets for himself. An example is when a student is determined to achieve high scores in examinations; such a person selects appropriate behaviour such as studying hard, so as to attain his set goals. And the motive ends by the achievement of the goals.

Also, the impact of motivation on students can be seen in the classroom settings. Motivation energizes the behaviour of the students and arouses them for action. It as well sustains their interests and behavior (sustains their interests and behavior) for a longer period of activity (Hall 1989 cited in Tella, 2007). A motivated state helps to increase efficiency and adequacy of

behaviour. For instance, a motivated student faces his class work with zeal and interest. Such student will always be in school and carry out the necessary assignment.

Another impact of motivation on students' achievement is that it helps to regulate the child's behaviour in such a manner that the student is always guided. The behaviour is purposeful and persistent. For instance, when a motivated child is given an assignment in the school, he puts every effort to ensure that he gets the assignment correctly. Even if he fails the assignment, he does not get discouraged but rather puts more effort towards the achievement of his goals (Omeje, 2009).

Bank and Finlapson (1980 cited in Tella, 2007) found that successful students were significantly higher motivated for achievement than unsuccessful students. In addition, Skaalvik and Skaalvik (2006) revealed significant relationship between achievement and motivation. In Nigeria, a study carried out by Ajayi (1998 cited in Tella op.cit.) on achievement motivation using 276 students revealed that there is an agreement between achievement and motivation.

2.3 Language and Identity Loss

According to Kamwangamalu (2007), language is not only an instrument for communication but also related to a set of behavioural norms and cultural values of which one's self identity is constructed. After learning a new language one's perception of his or her competence, communicative style and value system may undergo some changes.Tabauret – Keller (1997, cited in Kamwangamalu, 2007) says that the link between language and identity is so strong that a single feature of language use suffices to identify someone's membership in a given group. It is explained that linguistic items are not only the characteristics of groups or communities; they are themselves the means by which individuals both identify themselves and identify with others. Gumperz (1982) believes that language not only creates identity for its speakers but also

identifies their social group membership. For instance, in the South African context, the apartheid regime used language as one of the yardsticks besides skin colour, to develop its divide – and rule ideology against the black population.

It is believed that languages become endangered when they are not passed on to the children or when a metropolitan language dominates over others. Languages are much like living creatures that become endangered when numbers dwindle. Each language undergoes remarkable changes for different reasons. It is common that it happens for the native speakers of a given language not to be able to read or write the same language after nearly 50 years of age due to big changes (Dastigoshadeth and Jalilzadeh, 2011). Several scholars estimated the rate of world's approximately 7,000 languages' extinction to be one language lost in every two weeks, about half are endangered or on the brink of extinction (Grimes, 2000). When an indigenous language is lost, a world perspective is lost too. Since language is the carrier of different aspects of a culture, cultural diversity which is a cause of mobility among societies is also endangered. Different languages have helped human beings discover the world more precisely because different people having different cultures experience the world differently – for example there are fifty different words that mean '*snow'* in one language.

Attempts to preserve the language have been made and they occur in two ways. First, linguists can study a moribund language and seek to preserve the components of the language, the sounds, the vocabulary, the grammar, and the tradition. The second way is to teach children the language and have linguistic plans for language maintenance and revitalization.

2.4 The Igbo People

The Igbo people occupy an area of some 15,800 square miles in the lower eastern Niger basin which falls approximately within latitudes 5-7 north of the equator and longitudes 6-7 east of the

Greenwich Meridian (Nwadike, 2002). Onwuejeogwu, a renowned anthropologist and ethnographer described this area as *'the Igbo culture area'* (Onwuejeogwu, 1975). In recent years, the Igbo are found in all the five states of South-eastern states of Nigeria - Abia, Anambra, Ebonyi, Enugu and Imo.There are also some Igbo - speaking groups of people in parts of Akwa Ibom, Benue, Cross River, Delta and Rivers States of Nigeria (Omekwu, 2014)

However, the Igbo people are making a marked impression on the adjacent ethnic groups: the Efiks, Ibibio and others, and also on the distant cosmopolitan centres such as Jos, Kano, and Lagos.

A linguistic research carried out among the Igbo found that the people are very enterprising and virile, and travel for work or other purposes to any parts of Nigeria, and in Igboland itself to areas far from their own native village (Ward, 1941).

Writing in 1938, Basden, who had spent over thirty –five years among the Igbo people as a missionary supported this. He surmised in Nwadike (2002):

> The Igbo nation ranked as one of the largest language in the whole of Africa. Their readiness to travel and tenacity of purpose, especially when seeking employment and for greener pastures have carried many of them far beyond their native environment. When abroad, they maintain close contact, cemented and sustained by a strong tribal bond and union. Whatever the condition, the Igbo immigrants adapt themselves to meet them, and it is not long before they make their impression felt in the localities where they settle: it has been remarked that they make 'good colonists'. This they do a quiet and effective manner. They build their own churches, schools, and support the teachers and clergy sent to minister to them. Meantime after catering for their immediate needs, they send the bulk of their gains to their homes to be used for building better houses in preparation for their return, and assist in schemes for the general benefit of their own village community. They are generous in their gifts, as well as being astute in business affairs. (p.2).

In recent years, the Igbos travel far and beyond Nigeria and can be seen in the diaspora. Many of them can be seen in African countries and even far beyond in Great Britain, the United States of America, Brazil, Rome, Spain, Norway, and so no and wherever they are , they maintain close contact bonded and sustained by a strong ethnic unity. They exhibit their language and cultures by speaking their language, the type of food they eat, going back to Igboland for marriage, giving their children Igbo names and so on. Recently, a call was made in far away America that all the Igbo people residing in America should be counted in the census planned in May, 2010 (Uwandiigbo, 2010 cited in Anyanele, Okoye & Okanume, 2014) .This showed the bond of contact between the Igbo people out there in the diaspora.

2.4.1 Status of the Igbo Language

Advances in research in the areas of linguistics, archeology, anthropology, history, geography and allied disciplines have provided evidence that the Igbo are a Negro people, originating in Africa somewhere south of the latitude of Arselam and Khartoum (Afigbo, 2000). Ohiri Aniche (2007a) also supported the Negro African hypothesis origin of the Igbo by providing some basic vocabulary items which show similiarity in sounds and meanings across the Igbo and other Nigerian languages. Members of this racial stock speak languages which fall into a Niger – Congo languge family. This large family has a sub – family known as Kwa into which most of the languages in West Africa fall into, including most of those in southern Nigeria, e.g Igbo, Yoruba, Edo, Igala, Idoma, etc. (Ohiri – Aniche, 2013). The Igbo are one of the Proto – Kwa speakers who occupied the area of present day southern Nigeria and its environs (Ohiri – Aniche, op. cit.) The Igbo language is fraught with multi- dialects which can be grouped in clusters: Ika, Ukwuani, and Enuani clusters in Delta State; Onitsha, Orlu, Owerri, Nsukka, Umuahia, Abakaliliki, Oguta clusters in Anambra, Abia, Imo, Ebonyi and Enugu States and Ikwerre –

Etchee cluster in Rivers, Kogi and Benue states. These dialects have a common feature in grammar, lexicon and phonology, yet, they differ to some extent in these three aspects which do not disrupt mutual intelligibility. In Imo and Abia States, for example, aspiration and nasalization are features of some dialects. Nwaozuzu (2008) also classifies Igbo dialects into eight distinct groups and they comprise West Niger, East Niger, East Central, Cross River, North Eastern, South Eastern, South Western and Northern. She observes that aspiration, nasalization and labialization are distinctive features of the phonology of East Niger, East Central and South Eastern groups of dialects; while labialization is distinctive in North Eastern group of dialects. Although nasalization, aspiration and labialization are not distinctive in the Standard Igbo, they are observed to be striking distinctive features of some dialects of Igbo. These do not inhibit effective communication between those who use them and those who do not. There are thirty – six (36) letters in the Igbo alphabet. This is made up of eight (8) vowels and twenty-eight (28) consonants. The Igbo language is a tone language.

The Igbo language is reportedly threatened by extinction primarily due to a shift to the English language. The study of language and society in the past has created awareness of the extinction of some languages (Grimes, 2000). Linguists are concerned that some previously known languages have disappeared and many more are threatened by extinction. Although the Igbo language did not make the list of endangered languages in the latest edition of Ethnologue (Lewis, 2009), the current language trends among the Igbo, particularly the elite class and urban/city dwellers show evidence of the teething stages of shift to the English language.

The Igboman prefers to express himself more in English than in Igbo; and more often than not he identifies himself in other peoples' national attires. In many schools even in Igboland, the authorities debar their students from speaking their mother tongue even up to the extent of

imposing fines (Ohiri- Aniche, 2002). This situation should be of concern to all Igbo because the ultimate end of language shift is language loss. The Igbo believe that there is power in language for they say '*Asụsụ bụ ndụ mba*' which when translated means that 'language is the life of a nation'. They have failed to use their language as a unifying force and to demonstrate language and cultural patriotism (Njemanze, 2012). Out of the three Nigerian major languages, Igbo appears to be the most intimidated by the English language (Afigbo, 1981 cited in Njemanze, 2012).

Similarly, there are inadequate materials for successful teaching and learning of the language. Many of the available texts being used are not graded to suit various levels. Languages like English and French have laboratories for the teaching of some aspects of the language work; but this is yet to be achieved in Igbo, especially in urban cities where it is also taught as second language. Sometimes, the course content is either too simple or too advanced for the levels, and in most cases, there is insufficient guide to the teacher (Omeje, 2009;Umo,2001)

For many years, the syllabuses on Igbo in many places have no stated objectives to be attained. The West African Examinations Council (WAEC) syllabus was a typical example. Ubahakwe (1977) condemned this, when he remarked that the WAEC syllabus on Igbo (the only available document of its kind on the subject) merely listed the topics to be learnt.This situation has, however, since been remedied when the Federal Ministry of Education (FME) in 1982 introduced an approved National Curriculum on the Igbo language for Junior Secondary Education in Nigeria. The FME followed this up in 1985 with the introduction of the Senior Secondary Schools Curriculum for Nigerian languages (Hausa, Igbo and Yoruba). Both the JSS and SSS curricula had well articulated objectives. In 2007, the Nigerian Educational Research

and Development Council (NERDC), a parastatal of FME produced the 9-Year Basic Education Curriculum for Igbo language, and also a Teachers' Guide.

A closer look at the present Nigerian society and even beyond would reveal that the learning of the Igbo language has a lot of potentials for the creation of jobs and employment opportunities for thousands of unemployed. Even non Igbo indigenes can be employed by their studying the Igbo language well as language is a veritable tool for human communication, entertainment and transactions and also an empowering agent (Anyanele, Okoye & Okanume, 2014). The situation of promoting the learning of the Igbo language would also provide the younger generation opportunities of learning the language in schools, and would offer them employment as well. This the Federal Government of Nigeria supports by expressing that it is expedient that every child shall be required to learn one of the three major Nigerian languages: Hausa, Igbo and Yoruba (1998). Thus, the view of every child being required to learn one of Hausa, Igbo or Yoruba is a laudable statement by which the government in its effort to see that these languages are taught as second languages in Nigeria. This will contribute a lot to the production of graduates of Igbo needed in the labour market since various graduates of Igbo are needed for filling vacant positions left from time to time in different fields of life (Ani, 2012). The positions for graduates of Igbo are culture officers, research assistants, administrative officers, writers and editors, broadcasters, fashion modelers, artistes, and so on. Better still, they can teach Igbo online; can be employed in the Nigerian film industry, the Nollywood which employs more than twenty million Nigerians who act as actors, actresses, producers, distributors, promoters marketers and are dominated by the Igbos; they can also belong to the music and entertainment industry just like Onyeka Onwenu, Oliver De Coque, Stephen Osita Osadebe etc., or can even become translators and interpreters, It could be deduced that the Igbo language has the

potentials to create many jobs if well planned and undertaken by the native and non – native speakers of the Igbo language.

2.4.2 Students' Perception and Motivation to learn the Igbo Language

There is apparent contradiction in the principle and practices of Igbo – English bilinguals in relation to their mother tongue in post- independent Nigeria. Most of them support the promotion of the Igbo language in words when truly they prefer and actually interact in English even in informal situations, and in traditional contexts that warrant the use of the Igbo language (Njemanze, 2006).

A growing number of Igbo children of elitist parentage, born and bred in Igboland acquire English as a first language and even learn non- functional Igbo as a second language. Such children have experienced language loss. The situation is more critical among the Igbo children born and bred outside Igboland. They are called Igbo only because they are of Igbo parentage. When Igbo parents adopt English instead of Igbo as the main medium of interaction in the home, children perceive and deduce that English is superior to their mother tongue. They even look down on their peers who in turn develop a complex due to their ignorance or poor mastery of the English language. The psychological damage deepens when the child is subjected to ridicule or punished at school by teachers and in some cases the school authorities, for speaking his native language popularly referred to in secondary schools as 'vernacular'.

A study of contemporary children's play songs showed evidence of shift to English among urban Igbo children (Njemanze & Amadi, 2009). Similarly an earlier study on Igbo elites and their offsprings residing in Owerri, an urban town in Igboland, indicated the occurrence of shift from Igbo to English (Njemanze, 2007;Ohiri-Aniche, 2008).The result is that most Igbo children whose parents are balanced bilinguals are passive bilinguals or monobilinguals in English.

Government, too has failed to implement its noble goal with respect to the use of mother – tongue or the language of the immediate environment (in the early stages of education) as stipulated in NPE (NPE 1977, revised 1981, 1988, 2004; 2013).

Although the Igbo language is favoured among the few Nigerian languages that are studied in primary, secondary and higher institutions, it is ironical that most Igbos do not perceive any value in their language and they do ask their fellow Igbos: '*E ji Igbo eje ebee?*' This translates: 'Of what value is Igbo'. The study of Igbo is highly neglected by many Igbo people. They see the study of the language as something unnecessary and are contemplating where the graduate of Igbo should belong (Okodo,2012). This is a poor defense that is still being put up by some Igbo in the present technologically advanced post – colonial Nigeria for neglect of their native language. It is disheartening to note that only 33% of the Igbo respondents in a research conducted by Uwaru (2003 cited in Okafor, 2013) wanted Igbo to be selected as the national language whereas all the Hausa respondents chose Hausa and 55% of the Yoruba respondents chose Yoruba.

The implications of the neglect of the Igbo language by the Igbo in homes, at schools, and at the places of work result in many Igbos of readable age that do not and cannot read Igbo (Nnabuihe, 2003).The decreasing demand made on the Igbo language by its native speakers weakens the language. It hinders the growth of novel expressions and vocabulary especially in the area of science and technology, while some existing ones are going moribund due to lack of use. The situation eliminates viable opportunities for language immersion and acculturation for foreigners, and for all Igbos both in the hinterland and in the diaspora. The situation also impedes the younger generation from learning the language in schools. This results in shift from Igbo to

English which is inarguably taking a huge toll on the vitality of the Igbo. Ultimately, this brings about poor academic achievements of the students in Igbo in examinations.

2.5 Academic Achievement

Students' academic achievement, which is also referred to as scholastic standing is the process whereby students' educational activities are measured by examinations within the context of a curriculum (Datol, 2005). Ezugu (2011) maintained that teacher's approach to lesson delivery can start off on the right or on the wrong foot of the academic achievement. Akinsola and Popoola (2004) noted that poor teaching leads to poor learning and poor learning to poor academic achievement. They opined that to reduce the persistent failure of students at the junior secondary school level, there is need to introduce and test other methods of the teaching process. Ugwuanyi (1998) maintained the view that poor teaching is one of the factors that account for poor academic achievement and high school dropouts. He added that to reduce the persistent failure of students, the introduction of test and other methods of teaching/and learning is needed.Ikonta and Akumabor (2008) asserted that there is need for a combination of quality inputs and quality teaching and learning that can produce quality outcomes. A chief examiner of West African Examination Council (WAEC) also observed that the problem affecting language teaching and learning can be related to teacher's method of presenting the content of the the Igbo language curriculum to the students (Chief Examiner, 2010).The need to improve academic achievement of students (Igbo language students inclusive) in Nigerian secondary schools has been of great concern to stakeholders in the education sector. This is evident in recent researches reported by Ohiri-Aniche (2002), Okodo (2012) and Omeje (2009). The situation of poor academic achievement in Igbo has been attributed to several factors. Some of those factors

include an inappropriate method of teaching, teachers' factor, mixed ability classes and lack of textbooks and lack of qualified professional Igbo teachers.

2.6 Nigeria's Language Policy and Implementation

The preservation of cultural and linguistic diversity in today's world is a major concern to many scientists, artists, writers, politicians, leaders of linguistic communities, and defenders of linguistic human rights. More than half of the 6000 - 7000 languages currently spoken in the world are estimated to be in danger of disappearing during the 21st century (UNESCO, 2008). A Language Policy is what a government puts in place either officially through legislation, court decisions or other means to determine how languages are used to cultivate language skills needed to meet national priorities, or to establish the rights of individuals or groups to use and maintain languages.

The Constitution of the Federal Republic of Nigeria (1979) stipulates the direction of the National Policy on Education towards ensuring equal and adequate educational opportunities for all at all levels. Revisions of the National Policy on Education have been necessitated by the need to address noticeable gaps in content and provisions that emerge in the course of implementation, maintaining currency and relevance and to give adequate attention to new opportunities, issues and challenges (NPE 1977, revised 1981, 1988, 2004 and most recently in 2013).The indigenous language has an important role to play in the educational process and that is why the Nigerian government considers it in the national interest to incorporate the teaching and learning of Nigerian languages in its educational policy. The language topology of Nigeria involves the participation of certain recognized types of languages for curriculum instruction in schools and communication:

- The mother tongue (medium of informal education in the home and for socialization among peers especially in the rural settings).
- Language of the immediate community (in some cases for both the major and non – major languages, which serves as a local or regional lingua franca)
- Language of wider communication which is learnt as a foreign language (which can serve also as a language of immediate community but with a wider reach as for a lingua franca or national language)
- Language of wider communication which is also the official language (usually was then official language during the colonial period and is a second language for most but first language for a growing number of speakers).

Nigeria's language policy makes provision for the potential participation of all 525 languages in Nigeria which are of the first type, mother tongue languages, the three national and thirteen regional languages as languages for initial, informal education, immediate communication, in some cases for wider communication, and finally, English as the official language for wider communication. The assigning of educational functions to certain languages is reflected in the revised version of the NPE (2004):

> Government appreciates the importance of language as a means of promoting social interaction and natural cohesion; and preserving cultures. Thus, every child shall learn the language of the immediate environment.
>
> Furthermore, in the interest of national unity it is expedient that every child shall be required to learn one of the three Nigerian languages: Hausa, Igbo and Yoruba…(p.5)

Furthermore, the policy stipulates the language of instruction for each level as well as the role in the teaching and learning of other languages and is summarized below:

Early childhood/Pre-primary: Mother tongue or language of the immediate community

Primary Education (six years): Language of the environment for the first three years; English to be taught as a subject; progressive use of English from the fourth year; language of immediate environment and French (to be taught as subjects).

Secondary Education - Junior Secondary School: Three years of English as language of instruction, Language of environment (to be taught as first language where it has orthography and literature. Where it does not have, it shall be taught with emphasis on oracy as a second language). One major Nigerian language other than that of the environment

Senior Secondary School: Three years of English as language of instruction; any Nigerian language that has orthography and literature to be taught as subject.

English is the preferred medium of instruction in many schools in the urban cities. The urban pre-primary school child is confronted with the task of learning another language different from his/her own in order to access learning. At the primary and secondary school level, a second language is used as a medium of instruction in which perhaps, the school is the only access to exposure and practice.

2.7 Teaching Strategies for Classroom Instruction

A strategy is a plan of action for achieving a purpose (Harvey & Goudis, 2007).The purposes for employing strategies with respect to classroom teaching and learning include the need to comprehend, compose, problem solve, remember, reason, evaluate, and decode. It was concluded that students who have been taught strategies for accomplishing these purposes have a distinct advantage over the uninstructed (Pressley, Graham, & Harris, 2006; Torgesen, 2004). Neglecting

to teach with appropriate strategies for accomplishing classroom tasks is a serious oversight, for it was realized that the learners who are most successful are also the ones who are able to, and were taught using many strategies (Bransford, Brown, & Cocking, 2000; Trabasso & Bouchard, 2002). Duffy(2002) asserted that appropriate strategies put students in control of their mental processes and it would be in students' best interest if teachers in all areas of the curriculum taught with appropriate strategies.

Appropriate strategies for accomplishing learning tasks vary depending on the desired outcomes and structure of the domain.In all areas of the curriculum, researchers recommend that students be taught strategies for taking control of their thinking (Donovan & Bransford, 2005; Schunk & Zimmerman, 1997).

The following are the classroom strategies used for classroom instructions.

- **Conventional Method**

The teacher is the dominant participant in this instructional method. It is also termed teacher centred. The teacher plans and executes a teaching programme the way he is capable. It is mainly an example of a one - way communication between a teacher and his pupils.

It is a very popular method among many African teachers. It is commonly used in most schools and subjects and often abused by teachers.

It involves the teacher giving out factual information to large classes in a sort of spoon-feeding way. It often turns to dictation exercise for many learners. However, it is basically a chalk/marker -talk method or on many occasions, it is mainly ‘talk-talk’ exercise. The teacher usually talks, draws on the board or dictates some information and writes a few important words

on the board. In this method, the learners participate in the lesson by being allowed to ask or answer a few questions which usually come at the end of such lessons.

- **Individualized Method**

This method has to do with interaction between a teacher and a learner at any given time or period. This is an ideal situation whereby a teacher teaches only one learner at a time.An example of individualized instruction is the home lesson teacher for one's child: computer assisted instruction.

- **Discussion Method**

The discussion method is a student-centred method that usually involves learners taking active part in the lesson; by sharing information democratically on any given topic. It is a purely verbal approach.

The teacher may be involved in selecting the topic(s) for discussion as well as those who will take part. He could be involved in the discussion on each occasion, moderating, steering the discussion, and collating the relevant points. The learner's role involves researching the topic and presenting it from their various points of view as best as he can.

The discussion could be in the form of the whole class, small groups, debates, forums, panels, brainstorming, tutorials, round table conferences and symposium.

- **Project Method**

The project method is a natural life-like learning activity involving the investigation and solution to problems by an individual or a small group. The project method is learner-centred instruction. It involves the teacher assigning project topics, giving guidance or supervision and being available for consultation as the project progresses. In the project method, the learner is very

actively involved in the planning and execution of the project in a well-thought out sequential order. It is activity based. It complements other methods. It is designed to help the learner gain concrete understanding of an abstract or comprehensive idea.

The project could be by an individual student or group project (given to a few students). Projects could be written projects, construction, making models, displays, charts and exhibitions.

- **Demonstration Method**

This method involves a procedure or activities in which a teacher shows practically what the topic is, to learners and explains how such an assignment could be done. It usually involves the teacher displaying certain skills, materials or techniques. This method uses mainly the senses of sight and sound and, to some extent, touching of the learners.

It complements the lecture method.

The demonstration method can be used to show how something happens or has been explained before actually looks like. It can also be used to show the result of a procedure. This method could involve the use of real print or visual materials. It could be shown how to perform experiments.

- **Dramatization**

This involves the use of acting to teach or learn. It is a learner-centred method. Drama is popular and natural with children and so when used in the classroom; it looks like a carryover of home experiences. This method makes learning (by acting) life-like. Examples of dramatization includes: role-playing, taking part in plays, acting the role of an imaginary person, socio-drama and puppetry pageants.

- **Field Trip Method**

The Field trip method is a classroom instruction that involves the learners going outside the classroom. It involves their going to observe, interact and appreciate what they had been taught, by other methods such as the lecture method. Examples of this method include making excursions to industries, botanical or zoological gardens or other places of academic interests.

- **Assignment Method**

The Assignment method is the teaching strategy in which the teacher gives learners specific tasks which they have to accomplish within a stipulated time. The tasks may be given individually or to small groups of students. Such tasks may or may not be the same for different groups.

This method is designed to make learners do some or further research on a topic which has already been covered or would be covered or which time may not permit the teachers to cover in the class.

Sometimes, it offers some lazy students an opportunity to copy from the more hardworking students. If the assignment is a group work, some students may find some reasons not to be actively involved. Yet all students in the same group may end up scoring the same marks.

It has the advantage of making students develop the habit of doing further studies on various topics. This method could be improved by giving separate topics to each learner and making such efforts and giving learners immediate knowledge of results.

2.7.1 Teaching Strategies and Academic Achievement

Students' academic achievement, which is also referred to as scholastic standing is the process whereby students' educational activities are measured by examinations within the context of a curriculum (Datol, 2005). Ezugu (2011) maintained that teacher's approach to lesson delivery can start off on the right or on the wrong foot of the academic achievement. Akinsola and

Popoola (2004) noted that poor teaching leads to poor learning and poor learning to poor academic achievement. They opined that to reduce the persistent failure of students at the junior secondary school level, there is need to introduce and test other methods of teaching process.

2.8 Information and Communication Technology and Nigerian Educational System Context

The Federal Government of Nigeria, in the National Policy on Education (Federal Republic of Nigeria, 2004), recognizes the prominent role of ICTs in the modern world and has integrated ICTs into secondary education in Nigeria. The Federal Ministry of Education has launched an ICT-driven project which was intended to equip all schools in Nigeria with computers and communications technologies (FRN, 2006). In June 2003, at the African Summit of the World Economic Forum held in Durban, South Africa, The New Partnership for African Development (NEPAD) launched the e- schools initiative, intended to equip all African high schools with ICT equipment including computers, radio and television sets, phones and fax machines, communication equipment, scanners, digital cameras and copiers among others (Okebukola, 2004; Adomi, 2005).

Nigeria as a nation has recognized the potential of ICT in her educational system. The national policy on computer education emphasized the need for the integration of ICT into the Nigerian educational system. The Nigerian National Policy on Computer Education (FME, 1988) also emphasized the need for primary school pupils to be introduced to the basic computer skills, the use of the computer to facilitate learning and rudimentary use for text writing, computation and data entry. For secondary schools, they have related goals which were to be achieved at higher level. The tertiary institutions were also required to teach computer science as a discipline and to integrate it in school administration and instruction. To actualize this goal, the document states that government will provide basic infrastructure and training at the secondary school level.

Okebukola in Aduwa-Ogiegbaen and Iyamu (2005) stated that the computer is not part of 90 percent of Nigerian public secondary schools. This implies that the chalkboard and textbook continue to dominate classroom activities in most Nigerian secondary schools.Indeed,the implementation was not effective.

Three major objectives, among others were emphasized in the Nigerian National Policy for Information Technology (FRN, 2004). These are to empower youths with ICT skills to prepare them for competitiveness in a global environment; integrate ICT into the mainstream of education; and training and establishment of multifaceted ICT institutions as centers of excellence of ICT. To achieve these objectives, nine major strategies were outlined. These include:

- making ICT compulsory at all educational institutions;
- developing ICT curricular for all levels of education;
- using ICT in distance education;
- ICT companies' investment in education;
- giving study grants and scholarships on ICT;
- training the trainers' scheme for the National Youth Service Corp members on ICT;
- ICT capacity building at the zonal, state and local government levels;
- establishing private and public dedicated ICT institutions; and
- working with international and domestic initiative to transfer ICT knowledge.

Adeoye and Bello (2009) recommended that ICT capability in the 21st century is about having the cognitive proficiency to access appropriately how to use, develop, create and communicate information using technological tools. Atureta (2011) supported that the role of Information and Communication Technologies (ICTs) in the 21st century education system has been described as

vital to keeping abreast with rapidly changing technologies. Atureta added that the development of information and communication technology into the Nigerian educational system has come to stay; its importance has been translated into huge potentials in terms of positive outcomes, although investments in ICTs in Nigerian's education system have not yielded much when compared to similar investments made in communication.

Computers are becoming increasingly significant elements in the teaching and learning of first, native languages and in the study of English as a second and foreign language. Rahman (2009) opined that traditional methods of teaching are no longer able to meet the needs of today's learners; new technologies provide opportunities including the ability to factor learning to individual needs. The field of education has certainly been affected by the penetrating influence of ICT worldwide. ICT has made impact on the quality and quantity of teaching, learning and research in the institutions using it (Kwacha, 2007).

2.8.1 Role of ICT and Changing Nature of Pedagogy

Technology in education has been defined as a device available for teachers' use in instructing students in a more efficient and simulating manner (Cuban, 1986).Teaching all over the world is now being supported with information and communication technology, hence the use of computer in teaching and learning has been an effective means of enhancing academic achievement (Adekunle, 2006; Yusuf,2005).The main purpose of using ICT in education means using ICT equipment and tools in the teaching and learning process as media and in methodology and this is generally to familiarize students with the use and workings of computers and related social and ethical issues (Agbetuyi & Oluwatayo, 2012).

Researchers' and academics' conceptualization of pedagogy has changed with recent developments and many writers have also suggested that developments in ICT provide very different learning opportunities and a need to design a new integrated pedagogy has been identified (Felix, 2003; Yusuf, 2005). An assumption here is that, the use of ICT is changing the pedagogical roles of teachers, and a compelling rationale for using ICT in schools is its potential to act as a catalyst in transforming the teaching and learning process (David, 2000). Kigs (2008) supported that the above processes will still be necessary but the decisions and outcomes from those processes may be different as teachers' knowledge, beliefs and values change in line with affordances provided by new technologies. When pupils use ICT well, there was a clear improvement in the presentation of their work, in the range of information they had to draw on in their capacity to enter imaginatively into others' situations and in their understanding and analysis of key concepts. ICTs can accommodate differences in learning styles and remove barriers to learning by providing expanded opportunities and individualized learning experiences (DOE, 2008).

The Partnership for Higher Education in Africa (2003) argues that the appropriate use of new media can support curriculum transformation and improve educational quality. Agbetuyi and Oluwatayo (2012) reiterated that in the Nigerian educational system, one interesting thing is that ICTs are also a transformational tool that has promoted the shift to a learner – centered environment. It has assisted in improving the quality of education and training by increasing learners' motivation and engagement, and facilitating the acquisition of basic skills. The use of ICT tools such as videos, television and multimedia computer software that combine text, sound and colourful moving images are used to provide challenging and authentic content that engages the students to be more involved. More importantly, networked computers with Internet

connectivity increases learners' motivation as it combines the media richness and interactivity of other ICTs with the opportunity to connect with real people and to participate in real world events. David (2005) said that students become more aware about how to learn when using ICT because they must interact with the computer

The use of various multimedia devices such as television, videos and computer software can offer a more challenging and engaging learning environment for students of all ages (Haddad & Jurich, 2005).Numerous studies show that the quality of learning can be significantly enhanced when ICT is integrated with teaching and learning. Tinio (2007) asserted that ICTs greatly influence the acquisition and absorption of knowledge, offering developing countries immeasurable opportunities to enhance their educational systems, improve policy formulation and execution, and enlarge the range of opportunities for business. Maduekwe (2006) opines that employing networked information resources is a central skill for teachers to acquire as it is for the students' future. She perceives the development of capability in the use of ICT as an essential part of school curriculum in this technological age. Hence, nurturing this appreciation and readiness requires that not only pre – service but also service teachers should experience technology as a natural part of their professional preparation and work environment. Increasingly, teachers are challenged to find a place for computers to make their teaching more effective emphasizing the need to interact with the students (Simona, 1997). With the arrival of computers in the realm of teaching, teachers have been encouraged to work and adapt to the new technology to maximize learning.

Twenty-first century education reform policy has been focused on a shift from the traditional teacher-centered pedagogy to more learner-centered methods. Active, collaborative learning

environments facilitated by ICT contribute to the creation of a knowledge-based student population (Tinio, 2007). Additionally, ICT skills that come along with this shift in pedagogy are also useful for students hoping to transition into today's job market. Olorundare (2006) added that ICT has some of the following potentials in the implementation of the school curriculum:

It accelerates and deepens students' basic skills in any school subject especially language, mathematics and the sciences;

It challenges the students to learn independently and hence be responsible; It helps to update students' academic knowledge and instructional practices;

There is an opportunity for close cooperation with colleague in the same or even other areas through networking and internet services;

Educators are challenged to new methods of acquiring knowledge through knowledge sharing and are ultimately connected to the world;

There is also an unrestricted access of teachers and students relevant information and development in subject areas; and

Other peers, experts and policy-making institution can also be readily contacted.

The above potentials of ICT utilization at the classroom level make this tool an inevitable acquisition at our school levels and the use of ICT encompasses all aspect of the curriculum (Olorundare, 2006).

Every language is capable of meeting the linguistic needs of its native speakers. That is no language is inadequate on its own. If information technology involves the processing of information, its assessment and distribution with the use of modern machines, therefore, language acquisition becomes a necessary tool as a means of decoding this technology (Taiwo,

2007).In the globalized world of today, most countries now see the need to learn an additional foreign or official language in addition to the mother tongue (MT) or first language (L1). Ikudayisi (2006) buttressed this when he said that there is a need for language teachers to develop themselves using modern technology in this process of self development. This will enable them address learners' language difficulties so as to help them contribute to national as well as technological development.

2.9 Concept of Computer Literacy and Competency (ICTs Skills Competence)

Macqual and Ichakpa (2014) opined that ICTs play a pivotal role in helping teachers and students to perform more effectively. They added that ICTs exhibit great potential for knowledge dissemination, effective learning and development of more efficient education services. Mcmillan (1996) opined that the concept of computer literacy depends on whether it occurs at the level of operational abilities or at the level of political discourse. He identified the characteristics of ICTs literacy and competency as follows:

- the individual knows how to use word processing software, an e-mail and a browser for Internet navigation; and
- the individual is capable of registering, or of downloading information on a diskette (or some other external saving unit) so as to recuperate and print it elsewhere. Stein,Craig and Scollary (1997) added a cognitive aspect of computer competencies as:
- the ability of an individual to use ICTs to identify and search efficiently for specific information in order to build knowledge and develop critical and creative thinking.

Teachers are expected to integrate ICTs into their teaching and learning since adoption of ICT in education has been seen as a powerful way to contribute to educational change; better way of preparing the students for the information age; and improving learners' academic achievement

and equipping learners with survival skills for the information society (Andoh, 2012). Gusen (2010) opined that the integration of ICTs into teaching and learning has numerous benefits such as making learning more meaningful, interesting and enjoyable by both teachers and students.

Investments in ICTs cannot be fully appreciated unless teachers learn how to use and integrate ICTs into their teaching.ICTs should be provided to teachers with consideration of their competences. To make the best use of ICTs, teachers must be equipped with adequate ICT knowledge and usage competence because they play paramount role.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) proposed a technology literacy approach which is designed to prepare learners, citizens and a workforce that is capable of taking up new technologies to support social development and improve economic productivity. The UNESCO ICT – Computer Standard for Teachers (CTS),UNESCO(2008) provides guidelines for teachers to prepare them to play an essential role in producing technology – capable students by providing technology – supported learning opportunity for their students.

Teachers' development of competencies in relation to the technology literary approach stipulated by UNESCO (2008) entail the following:

- use of word processing such as text entry, editing text, formatting text and printing
- use of presentation and digital resources to support instruction;
- create an e-mail account and use it for e-mail correspondence;
- use of graphic software package to create a simple graphic display;
- use of a Universal Resource Locator (URL) to access a website;
- use networked record keeping software for attendance, submission of grades and maintaining students' records; and

- use of networked resources to help students collaborate, access information and communication with external experts to analyze and solve their selected problems.

It is assumed that teachers, who demonstrate ICTs competency will be able to design ICT-based learning resources and environments, use ICTs to support the development of knowledge creation and critical thinking skills of students.

In Nigeria, the National Economic Empowerment Development Strategies (NEEDS), cited in Gusen (2010) set machinery in place as a measure to meet with global challenges in the area of ICT literacy. NEEDS (2005 cited in Gusen (2010) affirmed that strategies like incorporating computer literacy in primary and secondary schools; developing and producing curricula for teaching computer education in secondary schools and providing secondary and tertiary institutions with computer facilities must be adhered to in order to achieve anticipated objectives of ICT integration. In congruence to the NEEDS aspirations, the Nigerian Federal Government took similar initiatives by introducing computer studies at various levels of its educational system. The ICT skills competence of teachers in the secondary schools are however, very imperative for those objectives of ICT literacy to be realizable.

Yildrim and Yildrim (2009) defined competence as a system of requisite skills for successful action in certain domains that can be influenced by practice and learning. ICT skills competence of both teachers and students is necessary in the area of integrating and using computers, telephones, projectors, powerpoint presentations equipment, the internet and so on in their day to day teaching and learning activities. Two general clusters of ICT competence exist, and they entail basic and advanced competences. Basic competences are represented by entry – level ICT

skills related to basic computer operation, and the use of an array of software that supports and enhances professional productivity.

Advanced competences extend the application of basic competences to teaching, learning, administration, counselling and other activities that promote effective and efficient teaching and learning. Positive attitudes towards computer by the teachers and students also foster computer integration in the classroom during language teaching and learning (Rozell & Gardner, 1999).

2.10 Computer Assisted – Language Learning (CALL).

Computer Assisted Language Learning (CALL) can be more broadly referred to as a structured environment in which computers are used for teaching and learning purposes in the language classroom (Beara, 2009). Research has shown that the learning environment is an alterable educational variable which can directly influence cognitive and affective outcomes (Wang, Haertel & Walberg, 1993; Waxman & Huang, 1998). Langford (1989) pointed out that 30–60% of our learning was due to our brain's wiring and 40–70% was a result of the environmental impact. From this suggestion, it is obvious that the environment is one of the pertinent variables which affect learning outcomes. CALL offers the opportunity for interaction and feedback and as a result the student is not under- privileged by the limitations of the teacher as is the case in the traditional classroom situation. Taylor (1980) also stated that computer assisted language learning can be wonderful stimuli for language learning. He asserts that through various communicative and interactive activities, computer technology can help the language learners strengthen their linguistic skills, affect their learning attitudes, and build their self – instruction.These show that the pivotal role of Information and Communication Technologies (ICT) especially in the area of CALL is very important and must be recognized for the teaching

and learning of the Igbo language to help it rise to the challenges of the new world of teaching and learning driven by Information and Communication Technologies.

The Computer Assisted Language Learning (CALL) is a form of computer-based learning which carries two important features of bidirectional learning and individualized learning. Computer-assisted language learning involves applying the principles of computer-assisted learning to language learning context. It is the use of computer programmes to enhance learning (Chapelle (2003). CALL is when the computer is being used as an instructional tool to improve learning by helping students acquire a better understanding of the learning content (Huizhong, 1985).According to him, the CALL materials are tools used in teaching to facilitate the language learning process. They are student-centered learning materials which promote self-paced learning. The Computer-assisted language learning (CALL) has emerged and progressed remarkably during the last three decades. The rationale of the rich and diverse CALL currently is due to the advent of technology that has made CALL possible to meet the needs of first, foreign and second language learners in different contexts (Levy & Stockwell, 2006). The invention of new technologies motivated researchers and practitioners to explore the significance of CALL in the first language, foreign language learning (FL) and second language acquisition (SLA). Gonglewiski et al (2007) maintained that computer –mediated instruction can provide a very valuable language learning experience. As teaching methods changed to audio - lingual and communicative approaches, the CALL software included simulations and more interactive programmes.

Research has shown that learning strategies employed in CALL can affect the quality of learning the language. However, it still lacks methods and a clear theoretical foundation (Christopher, 1995).The use of CALL systems in language learning programmes represents a shift of

pedagogical methods from a traditional teacher-centred approach to a method that is more versatile and student-centred (Gonzalez, 2003).

Furthermore, the technologies used in CALL have not only altered pedagogy and its environment, but also the paradigms of foreign language (FL) and second language acquisition (SLA). Nowadays, technologies are being used as communication tools which can provide means for using language more effectively and allow students to engage in communicative tasks in authentic and diverse contexts.

2.10.1 The Theory and Application of CALL

The emergence of CALL can be traced back to the mid 1950s when technology began to be integrated into language instruction. According to Davies and Higgins (1985), the term Computer-Assisted Language Learning (CALL) came from Computer-Assisted Language Instruction or CALI, reflecting its origins as a subset of the general term Computer-Assisted Instruction or CAI. The term CALI seemed to imply a focus on a teacher-centered approach, whereas language teachers are more inclined to prefer a student-centered approach. CALI, therefore, began to be replaced by CALL which focuses on learning rather than instruction. Levy (1997) succinctly defined CALL as the search for and study of applications of the computer in language teaching and learning which embraces a wide range of Information and Communication Technologies (ICTs) applications and approaches to teaching and learning of languages.

Warschauer (2004), Warschauer and Healey (1998), and Warschauer and Kern (2005) suggested that microcomputers have been integrated into language instruction, and have increasingly contributed to the enhancement of English proficiency in all language skills. These CALL programmes include standalone learning environment, virtual learning environment and Web-

based distance learning. According to them, CALL materials also extend to the use of corpora and concordances, interactive whiteboards, Computer-Mediated Communication (CMC), language learning in virtual worlds and Mobile-Assisted Language Learning (MALL).

The application of CALL has undergone a succession of theories for first, foreign and second language acquisition: from the behaviourist CALL, the communicative CALL to the integrative CALL. (Warschauer & Healey, 1998). From the 1950s to the 1970s, CALL was based on behavioural learning theory focusing on a drill and practice learning model in which the computer was regarded as a tutor (Taylor, 1980) delivering teaching materials to students, such as vocabulary drills and brief grammar explanations. During this period, people regarded the computer as a supplement to classroom instruction and learning. The rationale for the use of computers during that period includes: (1) repeatedly presenting the same material to students that can be a major benefit for their learning; (2) the computer, unlike a teacher, can implement drills repeatedly and give feedback immediately; and (3) the computer can allow students to learn at their own pace (Warschauer, 1996). This rationale is still applied to today's numerous drill programmes such as vocabulary and grammar exercises.

However, by the 1980s, several researchers criticized this approach at both the theoretical and the pedagogical levels (Ahmad, Greville, Rogers, & Sussex, 1985; Higgins & Johns, 1984; Underwood, 1984). For example, critics said that CALL courseware and activities could not optimize intrinsic motivation, pointing out the lack of interaction between learner and computer. Furthermore, the introduction of the microcomputer allowed for new additional possibilities. Since the 1970s, the communicative CALL was developed on the basis of the cognitive theories which stressed that learning is a process. According to the communicative CALL, computer-based learning activities in second language acquisition should focus on the use of forms rather

than on the forms themselves. Underwood (1984) proposed premises for communicative CALL which included the following crucial points:

- The activities will focus more on using forms to communicate rather than on the forms themselves.
- Grammar will always be implicit rather than explicit.
- Communicative CALL will encourage the student to generate original utterances rather than merely to manipulate pre-fabricated language.
- Communicative CALL will not try to judge and evaluate everything the student does.
- Communicative CALL will avoid telling students they are wrong.
- Communicative CALL will not try to reward students with congratulatory message, lights, bells, whistles, or other such nonsense.
- Communicative CALL will create an environment in which using the target language feels natural, both on screen and off.

The CALL programmes that embodied these principles were developed and used during this period of time. Non-drill format programmes included courseware for paced reading, text reconstruction, and language games. These programmes extended the computer beyond being a tutor model, a 'teacher in the machine' (Levy, 1997). The new model used for communicative activities involved the computer as a stimulus (Taylor & Perez, 1989). This software was based on a cognitive model of language acquisition intended to stimulate students' motivation, critical thinking, creativity, and analytical skills. It encouraged students to become active learners. Moreover, the communicative CALL involved the computer as a tool (Taylor, 1980) or workhorse (Taylor & Perez, 1989). For example, learners could take advantage of word processors, spelling and grammar checkers, and concordances to use or understand language.

By the 1990s, the integrative CALL emerged and focused on the use of multimedia, computers, and the Internet for language learning in authentic social contexts. Learners participated in task-based or content-based learning activities to integrate and use speaking, listening, reading, and writing skills. Integrating learning activities that represent holistic person-to person interactions include e-mail, MOOs (multiple-user-domain object oriented environment), role-playing games, and simulation games. Learner autonomy is a substantial goal in the integrative view of CALL (Healey, 1999). A syllabus in the integrative CALL is likely to be discrete and related to a set of curricular guidelines that have been defined in advance of learner's needs (Corbel, 1999).

Since learners have different personalities, general aptitudes and knowledge of a subject area, they will progress at different rates. Therefore, effective learning can occur when students engage their interests with the content. When interest is associated to learning, the information will be remembered and applied in real life experiences (Petorz and Reid, 2001; Prosser and Trigwell 1999). Students who are actively involved in their own learning usually become more independent learners and problem solvers. Whole language postulates that language moves from the whole to the part. What most of these pedagogical approaches have in common is taking the centre focus away from the teacher as conveyor of knowledge to giving students learning experiences that are as realistic as possible where they play a central role. Also, these approaches tend to emphasize fluency over accuracy to allow students engage more in student-centred activities and to cooperate.

Research priorities in CALL are determined by the pedagogical approach adopted. Behaviourist CALL investigators examined ways in which the use of the computer helps with the efficacy of instruction (Dunkel, 1991). Kulik and Kulik (1987) found out that the use of computer as a supplement to the conventional instrument produces higher achievement than the use of

traditional instruction alone, and that students learn materials faster with CALL than the conventional instruction alone. They reported further that students retain what they have learnt better with CALL than the conventional instruction alone. Again, the use of CALL enhances students' academic achievement and also influences their attitudes.

However, Bax (2003) criticized the three stages and suggested instead an alternative way to analyze CALL. Bax argued that CALL is now in the stage of open CALL instead of communicative CALL. In this stage, the computer is used for genuine communication. He also suggested that normalization and integrated CALL should be the end goal for CALL. He believed that teaching should be invisible and embedded in daily practice. Unlike pens and books that have been thoroughly adopted in the classroom, computers are not yet integrated into the curriculum of all classes. Kigs (2008) supported that CALL has not achieved the normalized stage since the concept is relevant to any kind of technological innovation and the normalized stage according to him, refers to the stage when the technology becomes invisible, embedded in everyday practice and hence 'normalized', to take some commonplace examples, a wristwatch, a pen, shoes, and writing - are all technologies which have become normalized to the extent that we hardly even recognize them as technologies. There is still, as Kigs pointed out, an element of fear, awe and exaggerated expectations surrounding CALL, and this has to be overcome in order to achieve a state of normalization.

2.10.2 The Use of CALL for Teaching Language Skills

Felix (2008) claims that there is enough data in CALL to suggest positive effects on spelling, reading and writing, for the effectiveness of CALL in promoting the four skills, but more research is needed in order to determine its effectiveness in other areas, especially speaking online. She claims that students' perceptions of CALL are positive, but she qualifies this claim by

stating that the technologies need to be stable and well supported, drawing attention to concerns that technical problems may interfere with the learning process. She also points out that older students may not feel comfortable with computers and younger students may not possess the necessary metaskills for coping effectively in the challenging new environments.

Training in computer literacy for both students and teachers is essential, and time constraints may pose additional problems. In order to achieve meaningful results she recommends time-series analysis in which the same group of students is involved in experimental and control treatment for a certain amount of time and then switched - more than once if possible.

Young and Bush (2004) observed that the literature in the field of language education demonstrates the efficacy of computer technology in writing instruction and addresses its impact on the evolving definition of literacy in the 21st century.

2.10.3 CALL and Listening skill

Hoven (1999) asserted that the use of computer as a listening tool is very important for the language learners. He added that it allows the learners to learn independently and to receive feedback upon the completion of tasks/activities. This will help to enhance language learning among the students and thereby making them to use the language contextually in real world situations. Puakpong (2005) developed CALL listening comprehension programme and used it on Thai University students. The results revealed that the participants performed better than their peers who are in the same proficiency levels in both midterm and final examinations; although the difference was not at a statistically significant level.

Audio and digitized speech, video, etc. are the multimedia potentials that make it possible for computer to be used as a highly effective tool for effective language listening skill development. The Computer when used with the internet also has invaluable benefits for developing language

listening skill and as such can provide so many authentic audio and video resources to listen (Alsied & Pathan, 2013). They added that the use of the computer provides an abundant variety of language through context- learning opportunity and interactive activities as would be seen in most authentic contexts.

2.10.4 CALL and Speaking Skills

The use of the computer can also help the language learners to speak. Computers provide learning opportunities for the language learners especially where there is less teacher interaction and communication that would have assisted in the authentic and challenging situations for improving the speaking skill (Alsied & Pathan, 2013). According to them, language learners can use computers, tablets and smartphones connecting with the internet to chat and talk with native language speakers and practice and improve their language, in friendlier language learning environment.

There are many social networking sites like Skype, Nimbuzz, Yahoo and Facebook etc. that allow this kind of audio as well as video talk, in addition to the Instant Messaging (IM) service.

2.10.5 CALL and Writing Skill

The computer used in the language classroom instruction for developing writing skills is also very beneficial. Computers can be used as an effective tool for developing the writing skill in the language classroom instruction. Writing skill is another area where CALL has added a great deal of value. CALL can help the students in doing corrections of grammatical mistakes and give some suggestions for certain expressions. Intratat (2009) developed a self-access CALL material to improve English writing skills for Thai undergraduate students. The findings from the questionnaire revealed that exercises in levels of difficulty, the explanation of grammatical features and examples, vocabulary games, authentic illustrations, test scores, etc., could help

them to improve their English writing ability. Gubtapol (2002) explored what editing strategies Thai students commonly used and how they used their strategies with word processing programmes to improve their English writing.

Cunningham (2000) found out and concluded that his students were more productive when using the word processing software in the writing classroom. He found that 88% of students indicated that they had improved their writing skills while using word processing. Kasper (2000) also reported a similar result which supports the imperative role of computer usage in developing writing skills in the language classroom instruction.

2.11 Impact of CALL on Language Teaching and Learning

Khamkhien (2012) concurred that currently, Computer Assisted Language Learning (CALL) is widely accepted to be a tool which can be used to facilitate the language learning process, particularly English language teaching (ELT). The use of CALL has provided a powerful medium for language learning from both teaching and learning perspectives. However, the integration of CALL programmes in language instruction requires a certain level of sensitivity and understanding of how to use the programmes appropriately.

A distinction needs to be made between the impact and the effectiveness of CALL. Impact may be measured quantitatively and qualitatively in terms of the uptake and use of ICT in teaching foreign languages, issues of availability of hardware and software, budgetary considerations, Internet access, teachers' and learners' attitudes to the use of CALL, changes in the ways in which languages are learnt and taught, and paradigm shifts in teachers' and learners' roles.

Effectiveness, on the other hand, usually focuses on assessing to what extent CALL is a more effective way of the teaching and learning of languages compared to using traditional methods - and this is more problematic as so many variables come into play. Most developed nations work

comfortably with the new technologies, while developing nations are often beset with problems of costs and broadband connectivity. Hubbard (2002) presents the results of a CALL research survey that was sent to 120 CALL professionals from around the world asking them to articulate a CALL research question they would like to see answered. Some of the questions have been answered but many more remain. Leakey (2011) offers an overview of current and past research in CALL and proposes a comprehensive model for evaluating the effectiveness of CALL platforms, programmes and pedagogy.

2.12 Relationship between CALL Programmes and Language Learning Education

When the first computer was invented in 1942, a new era of technology began. The original goal of the computer was to help scientists dealing with difficult tasks that could not be solved by humans (Cuban, 2001). As technology improved over the decades the capabilities of computers became more powerful. Computer applications have been gradually adopted and widely used by every discipline, especially in educational curriculum and language learning fields. Modern computer technology and its assisted language learning programmes in the language classroom are widely believed to help reshape both the content and processes of language education and help teachers promote a constructive class environment (Tabatabaei,2012).Warschauer and Kern (2005) pointed out that CALL methodology has been greatly influenced throughout its history by the overall methodology that has characterized language teaching and learning at various points of its development.

The change in language teaching is more of a complex overlapping of the three movements than a polar shift from the structural to communicative. The shifts in perspectives on language teaching and learning are parallel to the developments in computer technology and CALL programmes. As technology shifts from the mainframe to the personal computer, the roles of

computers in language classroom also shift from as a tutor to a stimulator resource and a tool. Today's computer has become much more than a tutor, a stimulative or a tool for developing students' language skills in ESL and indeed language education. Egbert (2005) indicated that technology provides support and improves language learning settings rather than providing use as a single tool or source of information. It is now less a question of the role of computers in the language classroom and more a question of the role of the language classroom in today's information technology society (Warschauer & Healey, 1998).

2.13 Teacher Preparation for and use of CALL

It is accepted that we are living in an increasingly digital world and the role of software in our lives is becoming critical. Learning to use the computer including learning to use it as a medium for further learning called computer aided learning (using the computer for learning existing curricular content) is therefore considered an increasingly important aspect of school education (Warschauer & Healey, 1998).This means that the CALL contents need to be designed by experienced curriculum experts who are open to exploring the new possibilities provided by a new interactive medium. They found that enhancing the use and knowledge of CALL is essential to ensuring effectiveness of instruction.Healey (1999) maintains that the changes implied in the successful practice of Computer Assisted Language Learning (CALL) do amount to a change in method. He maintains that 'using technology's power often requires radical shifts in a teacher's methods and philosophy'. This implies that the traditional teacher – centered class is not conducive to the successful practice of CALL. However, preparation programmes for pre-service and in-service teachers seem to have been ignored in programmes and professional development in colleges (Kessler, 2006). He pointed out that the most critical problem with the use of

technology in language teaching is the deficiency of proper training for language teacher preparation. Garrett (1991) pointed out that

> the use of the computer does not constitute a method. It is rather a medium in which a variety of methods; approaches and pedagogical philosophies may be implemented (p.75).

This implies that the effectiveness of using the computer during teaching and learning does not depend on the medium itself but rather on how it is put to use. For many years, foreign language teachers have used the computer to provide supplementry exercises. Recently, due to technology advancement, teachers started to consider the use of computers as an essential part of daily language teaching and learning. A lot of attention has been paid to the use of CALL in foreign language teaching and learning.

Computer technology has become indispensable in the contemporary world as a powerful means of communication and education (Tswanya, 2006). One of the important uses of computer is its capacity to create new opportunities for curriculum and instruction enrichment by bringing real-world problems into the classroom for teachers and students to explore and solve (Bransford and Brown, 2000). Thus, the role of computer as a resource for instruction in language learning is increasing as educators have recognized its ability to create both independent and collaborative learning environments in which students can acquire and practice a new language (Butler – Pascoe 1997; Tswanya, 2005, 2006).

Several studies (Dell and Disdier, 1994; Woodrow, 1993, Butler – Pascoe, 1997; and Tswanya 2006) have noted that the benefits of computer – assisted language learning constitute a compelling argument for comprehensive teaching and learning in the classroom use of computer and internet technology. Equally, there is growing evidence that second language teachers have

less access to computer – enriched instruction than native language speakers (Skeele, 1993; Aborisade, 2005; Tswanya, 2005).

Pope and Golub (2000) have rightly noted that using computer technology in the language learning classrooms is not only improving their instruction for their students, they are as well changing the nature of that instruction for the better.

2.13.1 Teachers' Barriers to the Use of Computer-Assisted Language Learning

Lu and Powell (2004) indicated some barriers that influence language teachers in the use of computers in their classrooms. These barriers can be classified into the following categories: (1) Lack of financing, (2) availability of computer hardware and software, (3) technical and theoretical knowledge, and (4) acceptance of the technology (Bani Hani, 2009).

Lack of Finance

Lack of finance can hinder the use of CALL in the classrooms. They include the cost of hardware, software, maintenance (particularly of the most advanced equipment) and extend to some staff development. Froke (1994) supported that the challenge was unique because of the nature of the technology. Lu and Powell (2004) indicated three conditions under which Computer-Assisted Language Learning and other technologies can be cost-effective. Computer-Assisted Language Learning costs the same as conventional instruction but ends up with producing higher achievements in the same amount of instructional time because, most times, it results in students achieving the same level but in less time. Bani Hani (2004) argued firmly that new technologies are add-on expenses and will not, in many cases, lower the cost of providing educational services. He stated that the new technologies probably will not replace the teachers but will supplement their efforts, as has been the pattern with other technologies. The

technologies will not decrease educational costs or increase teacher productivity as currently used.

Availability of Computer Hardware and Software

The most significant aspects of computer are hardware and software. The availability of high quality software is the most pressing challenge in applying the new technologies in education (Bani Hani,2014; Al-Ruz & Khasawneh,2011; Lin, Wang & Lin, 2012). Jonita (2002) indicated having sufficient hardware in locations where learners have access to it remains problematic and is of course, partly a financial problem. Computer hardware and software compatibility goes on to be a significant problem. Choosing hardware is difficult because of the many choices of systems to be used in delivering education, the delivery of equipment, and the rapid changes in technology. Underlying this problem is a lack of knowledge of which elements in software will promote different kinds of learning. There are few educators skilled in designing it because software development is costly and time-consuming (Noemi, 2007).

Technical and Theoretical Knowledge

A lack of technical and theoretical knowledge is another barrier to the use of Computer Assisted Language Learning technology. Not only is there a shortage of knowledge about developing software to promote learning, but also many instructors do not understand how to use the new technologies. There is the reluctance on the part of some teachers probably as a result of lack of understanding or even fear of technology. There is also the idea that the use of the computer threatens traditional literacy skills since such are heavily tied to books. These stem in part from the fact that there is a significant generation gap between the teachers (Many of who did not grow up with computers) and students (who did grow up with them).There is a lack of united theoretical frame work for designing and evaluating CALL systems as well as absence of

conclusive empirical evidence for the pedagogical benefits of computers in language. Computers cannot handle unexpected situations due to technological barriers. Language teachers sometimes have barriers, which are related to the system, such as viruses, connection problems or problems caused by the students unconsciously. Computers may have technical problems and then may result in breakdowns though it does not happen frequently. However, a breakdown in the middle of classroom teaching may leave the teacher embarrassed, and waste a lot of time. A breakdown during students' autonomous learning may result in a loss of data and works, and students would then have to do some exercises from the beginning again because everything is programmed in advance. This is really a big challenge for students who are not very skillful with computers.

Acceptance of Technologies

We live in a time change. Gelatt (1995) stated that change itself has changed, and that change has become so rapid, so turbulent and so unpredictable. Bani Hani (2014) indicated that the current of change move so quickly that they destroy what was considered the norm in the past, and by doing so, create new opportunities. But, there is a natural tendency for organizations to resist change. According to Zuber-Skerritt (1994) wrong conceptions about the use of technology limit innovation and threaten teachers' job and security. Bani Hani (2009) supported that instructors are tend not to use technologies that require substantially more preparation time, and also, teachers may resist CALL because its activities can be more difficult to evaluate than the traditional exercises. Worthington et al (1996) stated that many design issues arise when evaluating the efficacy of CALL. They pointed out that one of the most pernicious is possible selection bias when comparing two classes that receive different treatments.

2.13.2 Advantages and Disadvantages of CALL in Language Learning

Advantages of CALL Programmes

Educators (Jonassen, 1996; Salaberry, 1999; Rost, 2002) indicate that the current computer technology has many advantages for first and second language learning. Computer and its attached language learning programmes could provide first and second language learners more independence from classrooms and allowing learners the option to work on their learning material at any time of the day. Once implemented, it can be expected that the cost for computer technology is considerably lower than for face-to-face classroom teaching, and when used in conjunction with traditional language classroom study, students can study more independently, leaving the teacher more time to concentrate effort on those parts of language teaching that are still hard or impossible by the computer, such as pronunciation, work on spoken dialogue, training for essay writing and presentation (Rogers, 2002).

Lee (2000) further supported that applying computer technology and its attached language learning programmes in first and second language instruction can:

- provide practice for students through the experiential learning;
- offer students more of the learning motivation;
- enhance students achievement;
- increase authentic materials for study;
- encourage greater interaction between teachers and students and students and peers;and
- enlarge global understanding.

Today, with the advanced development of computer technology, computers can capture, analyze, and present data on first and second language students' performances during the learning process. Observing and checking students' learning progress are very important activities to help

students achieve their target language acquisition. When teachers attempt to assess students' learning progress, they can get the essential information from a well-designed computer assisted language learning programmes and then offer feedback tailored to students' learning needs (Taylor & Gitsaki, 2003).

Many concepts and cognitions are abstract and difficult to express through language teaching area, and computers seem to make up for this shortage by using the image showing on the screen. Nunan (1999) reported that interactive visual media which computers provide seem to have a unique instructional capability for topics that involve social situations or problem solving, such as interpersonal solving, foreign language or second language learning.

Experiential theory educators believe that learning is about making sense of information, extracting meaning and relating information to everyday life and that learning is about understanding the world through reinterpreting knowledge (Ormrod, 1999). When the computer technology combines with the Internet, it creates a channel for students to obtain a huge amount of human experience and guide them to enter the global community. In this way, students not only can extend their personal view, thought, and experience, but also can be learning to live in the real world. They become the creators not just the receivers of knowledge. And since the way information is presented is not linear, first and second language learners can still develop thinking skills and choose what to explore (Lee, 2000).

Both cognitive theorists and humanists all pointed out that practice experience is a very important factor for people's learning.

As far as English language teaching is concerned, it is believed that CALL is capable of overcoming some of the limitations hindering the success of English language teaching and learning in a number of ways (Chapelle, 1997; 2003; Salaberry, 1999; Warschauer, 1997; 2002;

2004; Warschauer & Healey, 1998; Warschauer & Kern, 2005; Yang, 2008). These studies seem to yield congruent results regarding the influences and efforts of using CALL in language learning on learners' performance. According to them, computer assisted language learning or CALL has provided a powerful tool for language learning for several reasons. Some advantages of using CALL programmes in language learning are:

- The use of CALL to support language learning provides students with the authenticity of the input. At this point, students can have an opportunity to interact in one or more of the four core skills, namely listening, speaking, reading, and writing because they have to use or produce texts meant for an audience in the target language, not the classroom (Garrett, 2009).
- Teachers can use CALL to provide easy and rapid access to a variety of language learning resources and multimedia components of dynamic and authentic input in all areas of language that teachers could not offer without additional teaching aids. Activities such as problem-solving, information gap, language games, animated graphics are made available from CALL which the teachers can let the students practice with the target language. With these authentic tasks, the students have to actively interact with authentic contexts and negotiate meaning in the target language. As a result, Lu, Hou and Huang (2010) claimed that students' interest, motivation and confidence will be promoted, whereas Warschauer (2004) asserted that one quantifiable benefit to increase motivation is that students tend to spend more time on tasks when they are on the computer.

Improvement of Critical thinking skills: Jonita (2002) reported that use of Computer - Assisted Language Learning in classroom is generally reported to improve self concept and mastery of

basic skills. Most computer activities require more active processing resulting in higher order thinking skills and better recall. .

Another benefit of using CALL includes emphasis on active learning, enrichment of collaborative learning, encouragement of greater students' independence and task-based teaching (Worthington etal, 1996; Lu, Hou & Huang, 2010).Focusing on the students' knowledge, rather than on the teacher's ideas of important content, is the characteristic of a flexible environment that encourages students to develop higher conceptions of learning (Murphy, 2007).

Disadvantages of CALL Programmes

Despite the preponderance of advantages offered by CALL in the language classroom, there are still many doubts whether computers can serve well in teaching language and whether they can provide learners with efficient and effective practice. Gündüz (2005) added that despite the important roles played by computers during language teaching and learning process, there are some disadvantages of CALL.

Chapelle (1997) and Warchauer (2004) suggest that computer technology should not completely replace the language classroom teacher because disadvantages of CALL do exist. The teachers are therefore considered to be resource persons in the language classroom as the presentation or authentic input might not be easily comprehended by low proficient learners or even relatively more proficient learners, without additional help from teachers. (Kanoksilapatham,2009).He added that for CALL to be effectively and successfully applied and implemented in the language classroom, teachers and learners need to be trained with, at least, basic technology knowledge and familiarity.

Gips, DiMattia and Gips (2004) indicated that the first disadvantage of computer and its attached language learning programmes is that they will increase educational costs and harm the equity of

education. CALL requires computers and software as well as other equipment, all of which are expensive. Once computer laboratories are established, it is not possible to re-equip them for several years. This indicated that there are many limitations of equipment and facilities, and many teachers may not be able to do what they want to do. Computers are quite expensive and the upgraded version replaces the older one very fast. Although the prices of computers have come down, the older computers become obsolete so fast that replacements require expenditure, which make them unaffordable for the majority of people. It is thus a big problem for schools and universities, which cannot afford many computers to keep pace with newer versions. Computer hardware, software, and programmes are continually updated with the technological development, which puts more pressure on educators and learners who want to catch up with new technology**.** Some scholars argue that CALL increases educational costs and harm the equity of education. When computers become a basic requirement for students to purchase, low-budget schools and low income students usually would not afford computers. It will cause unfair educational conditions for the poor schools and students.

It is necessary that both teachers and learners should have basic technology knowledge before they apply computer technology to assist second language teaching and learning. No student can utilize computer if he or she lacks training in the uses of computer technology. Unfortunately, most teachers today do not have sufficient technological training to guide their students exploring computer and its assisted language learning programmes. Therefore, the benefits of computer technology for those students who are not familiar with computer are non existent (Roblyer, 2003).

The software of computer assisted language learning programmes is still imperfect. Current computer technology mainly deals with reading, listening, and writing skills. Even though some

speaking programmes have been developed recently, their functions are still limited. Computers are not very good at teaching for the teacher, and the software does not run the lesson for the teacher. The teacher can adapt, improve and compensate for shortcomings in the software. It can take longer for the teacher to learn a piece of CALL software than handle a textbook, because s/he has to work through it, rather than just skimming through it. The teacher must feel comfortable in the computer laboratory and with the medium in order to be able to use it effectively.

In addition, it is important to use the appropriate programme for the students' level. If it is not correct for their level, the activity cannot be prevented from becoming a chaos of uncertainty. It was advised that well-designed digitized instructional programmes might be considered the most essential step for CALL utilization authentically (Fu, 2013). Warschauer (2004) pointed out that a programme should ideally be able to understand a user's spoken input and evaluate it not just for correctness but also for appropriateness.

Computers cannot handle unexpected situations. Computers can only do what they are programmed to do. Computers, after all, are machines. Complicated and powerful as they are, they still cannot take the place of teachers. They cannot communicate meaningfully with the users because they do not recognize natural language fully. They can only respond to certain commands that are already programmed in advance. Thus, many programmes fail to meet users' individual demands. First and Second language learners' learning situations are varying in nature, dynamic and ever changing. Due to the limitations of computer's artificial intelligence, computer technology is unable to deal with learners' unexpected language learning problems and response to learners' questions immediately as the teachers do.The reasons for the computers' inability to interact effectively can be traced back to a fundamental difference in the way humans

and computers utilize information (Dent, 2001). Blin (1999) also expressed that computer technology with that degree of intelligence do not exist. In fact, today's computer technology and its attached language learning programmes are not yet intelligent enough to be truly interactive. AbuSeileek, and Sa'aleek (2012) added some other demerits of Computer –Assisted Language Learning as follows:

- those who do not have prior experience in using the keyboard may waste a lot of valuable time identifying in order to print their responses(Stokes,1999).
- Working with computers normally means that the learners work in isolation. This obviously does not help in developing normal communication among the learners, which is a crucial aim in any language lesson. Suggestions about organizing pair work around the computer have been impressive only in theory, but in practice learners tend, for convenience, to revert to their mother tongue in discussing their strategies and responses(Gündüz, 2005);
- Computers are not suitable to all the activities that go on in the classroom;
- Computers cannot cope with the unexpected happenings and ambiguity;
- Computers cannot conduct open - ended dialogues and cannot give feedback to open - ended questions.
- The time and effort required to develop CALL programmes could be considerable, and thus their cost and effectiveness becomes questionable. It requires competence in the target subject area, pedagogical skills and computing experience;
- It is more tiring to read from a screen than from a printed text; or to scroll the screen than turnover the page (Kenning and Kenning: 1983; Ahmed,Corbett, Rogers & Sussex: 1985).

2. 14 Research studies on Computer-Assisted Language Learning (CALL)

The use of Computer-Assisted Language Learning (CALL) has increased markedly in the last decades, and numerous studies have been conducted about the role of computer in the learning of first, second and even foreign language in the 20th and 21st centuries. Many researchers are interested in using computers as a medium for teaching and learning and many studies were conducted on using CALL for teaching and learning of languages as well. To the researchers' best knowledge, many studies were conducted on using CALL in the teaching and learning of English and other languages worldwide, but few in the teaching and learning of English as a second language in Nigeria, but none in the teaching and learning of the Igbo language in Nigeria.

Researchers (Ali & Yacob, 2010; Ercetin, 2010; Kilickaya, 2010, AbuSeileek, 2011; 2012) have shown an explosion of interests in using computers for foreign language teaching and learning. Computer technology has played an important role in the teaching and learning process around the world. Lockard, Abrams, and Many (1997) cited in AbuSeileek and Abu Sa'aleek (2012) pointed out that the computer is an indispensable component of changes now facing education in the United States, and indeed throughout the world.

However, this section contains studies conducted on teaching some components of language via computer.

Kleinmann (1987) studied and compared twenty commercially available CALLpackages with non - CALL materials and found that there were no significant differences in reading achievement and concluded that the CALL programmes were little more than electronic textbooks.

Bulut and AbuSeileek (2006 cited in Tabatabaei, 2012) suggested that students in general have a positive attitude towards the integration of CALL into the curriculum for teaching basic language skills and their writing did improve with computer use, whereas the teacher's role was minimized. Bakar (2007) reported that researchers have found out that CALL enhances learning rate, that students learn the same amount of material in less time than the traditionally instructed students or learned more materials given the same amount of time. He added that students receiving CALL also retain their learning better.

Jefferies (2001) found out that the use of CD-ROM tutorials is ideal to support the traditional classroom. Also, that the pedagogy of a teacher's text extends into highly visual, hands –on learning environment that is available anytime and as such it generates higher satisfaction and greater cognitive gains for the multimedia group.

Davidson and Knoll cited in Ragasa (2008) found out in their study that students in cooperative environment developed more positive attitude towards learning than students in traditional environments.

Intratat (2007) focused her study on the importance of using CALL in classroom practice. Using self-created questionnaire with 167 Thai university students and 70 lecturers asking about English CALL materials, the results reflected that the participants appreciated most the advantages of using CALL materials, particularly freedom in studying. However, some problems in using CALL were raised. For students, time consumed loading the programme was the largest problem, while the development of CALL programmes was seen to be the greatest disadvantage of CALL in the lecturers' view.

Wong-a-sa (2010) employed questionnaire and observation techniques to investigate the effectiveness of using supplementary task-incorporated learning activities in CALL courseware.

The results of this study showed that with the modified task-incorporated CALL courseware and a set of classroom activities, students' interaction and participation greatly increased. Furthermore, it was found out that students show positive learning attitude towards CALL programmes. In this regard, Wong-a-sa's suggestion is that, to promote classroom interaction and learning motivation, the properly designed CALL courseware should be seen as a suitable teaching and learning material.

Thongtua's study (2008) also considered the development of reading skill abilities. In order to improve students' English reading comprehension, Thongtua (2008) developed CALL reading comprehension programme, achievement tests and attitude questionnaires. He tested them with the 20 high school students. The results revealed that the students using the CALL programme had significantly higher achievement than those who studied the hard copies or supplementary textbooks. It was also found that the students showed positive attitude towards using CALL programme in learning English.

In accordance with the above, Torut and Torut (2002) designed and developed a multimedia CALL material for graduate students. The results indicated that the students learning through multimedia CALL programme and textbook outperformed those learning through a textbook alone in the final reading comprehension test. Moreover, positive opinion on the use of multimedia CALL software was found.

Kaewphaitoon (2003) developed an English language learning computer application. It was found that the students had positive attitudes towards using the computer programme as it helped them improve their listening and speaking skills. Moreover, Kaewphaitoon' conclusion indicated that classroom observation of this group of students showed that they gained more confidence in listening and speaking.

Virliandani and Nugroho (2008) reported that developed Computer Assisted Language Learning (CALL) for learning SIBI (Sistem Isyarat Bahasa Indonesia) was very effective for learning the language.

Regards English grammar, Tongpoon (2001) studied the development of grammar CALL courseware on phrasal verbs for first year English major students. Using an achievement test, a questionnaire and observation form, Tongpoon found that these students had positive attitudes towards CALL and their English performance substantially improved after studying with the computerized lesson. The result also showed that the developed courseware was efficient in enhancing language learning. Intratat (2003) evaluated the effectiveness of these CALL materials on how students deal with English grammar. Students' scores on a pre-test and post-test were measured and compared. The results revealed that the post-test scores were significantly higher than those of the pre-test showing students' development in proficiency performance.

The development and utilization of CALL is not very common in Nigeria, rather CAI was commonly used in the area of sciences. However, the National Policy on Education (1998; 2004;2013) aims at modernizing education in Nigeria via the application of information technology at all levels. It also emphasizes the different roles of computer as a learning tool in the classrooms.

In Nigeria, Gambari, Ezenwa and Anyanwu (2014) examined the effects of two modes of Computer – Assisted Instructional package (CAI) on solid geometry achievement amongst senior secondary school students in Minna, Niger State, Nigeria. Also, the influence of gender on the performance of students exposed to CAI and CAI package were examined. The study revealed that there were significant differences in the post-test mean scores of CAI and control group,

while there was no statistically significant difference in the post- test mean scores of male and female taught using CAI.

Yusuf and Afolabi (2010) investigated the effects of Computer Assisted Instruction (CAI) on secondary school students' performance in biology in Oyo State. The findings of the study showed that the performance of students exposed to CAI were better than their counterparts exposed to the conventional classroom instruction.

Fagbemi, Gambari, Oyedum and Gbodi (2011) examined the effect of a self- instructional computer – based package on social studies achievement on senior primary school pupils in Niger State Nigeria. Gender and age differences in the achievement of pupils taught with self-instructional computer- based package were also examined. The quasi- experimental pretest – posttest experimental – control group research design was employed. The findings revealed that there was no significant difference between the mean scores of male and female students taught social studies with the self- instructional computer- based package, implying that the instructional package is gender friendly. Based on the findings, they concluded that the use of the self- instructional computer – based package could serve as a viable alternative to the conventional method of teaching.

Gambari, Kutigi and Fagbemi (2014) investigated the effectiveness of a computer- assisted pronunciation teaching (CAPT) package on the achievement of senior secondary students in oral English in Minna, Nigeria, It revealed that students taught oral English with the CAPT package performed and retained the concepts of oral English better than those taught with the traditional teaching method.

Akudolu (1999) reported a study which identified the extent to which the use of CALL influenced students' interest in the French language. The study covered the Enugu education

zone in Enugu State with junior secondary school students. The major finding was that CALL did not have a significant effect on the interest ratings of the students.

Olibie (2010) studied and found out that the use of Computer- Assisted Language Learning improved secondary students' achievement in English grammar more than the Conventional English Language Instruction (CELI) in Universal Basic Education. Her study involved quasi-experimental one involving four intact classes of junior secondary III students assigned to control and experimental groups respectively. The study lasted for 8 weeks in which computer was utilized for the experimental group and printed texts for the control group. She found out that CALL had an overall positive effect on students' achievement in the English language more than the Conventional English Language Instruction (CELI).

All these studies that have been carried out in Nigeria and in different parts of the world on the use of CAI and CALL have been interesting and instructive. However, none has been done on the use of CALL in the Igbo language. This study therefore developed an the Igbo Language Learning Multimedia Package (ILLMuPac) which was used to present learning materials in Igbo langage. It was used to examine the effect of ILLMuPac on the motivation and achievement of JSS students in Igbo in Lagos State, Nigeria.

2.15 Summary of the Literature Review

Most of the previous studies reviewed investigated the effectiveness of the use of the CALL courseware help to develop and enhance students' language skills (Gambari et al, 2014; Yusuf & Afolabi, 2010; Wong-a-sa, 2010; Thongtua, 2008). In addition, these studies also indicated that the CALL courseware has great potentials to supplement traditional learning. It also encourages teaching and learning through its dynamic interactive and engaging content. It provides

opportunities for active learning; contributes to radical changes in school; and provides opportunities for connections between the school and the world (Yusuf, 2005).

The researcher belives that the importance of CALL to enhance the quality of the Igbo language teaching and learning cannot be over emphasized. Previous researchers

(Fagbemi et al, 2014) have also put forward the contributions of CALL to transform language teaching and learning in ways not experienced before if appropriately utilized and integrated into existing language teaching and learning practices. However, the researcher observed that most Igbo teachers in the junior secondary schools used for this study were yet to understand the importance of the various CALL materials to complement language teaching and learning. There is need to use the CALL intervention package so that the Igbo language would also gain these advantages among the learners.

The researcher also belived that integrating and utilizing CALL materials during the Igbo language classroom instruction would also benefit secondary school Igbo students, and if used appropriately will trigger the students'motivation which will make them to desire the language, expend their energy by putting their efforts and then achieving the intended goals of learning the Igbo language. The experience of success and satisfaction has a strong connection with motivation and by realizing their improvement and achievement, the Igbo language students will always feel a lot more confident with CALL materials. As a result, they will also be able to use the CALL materials to communicate more effectively, practice language skills more thoroughly and solve language learning problems more easily.

The literature reviewed indicated the great and important role motivation plays in language learning like making the language learners to become positive about their own learning. It also creates the drive in them to acquire the target language, enjoy the learning process, and experience real communication. As reported in Lee (2000) students' motivation will increase,

especially whenever a variety of activities are offered, it will make them feel more relaxed and study at ease. Akinsoola and Popoola (2004) also added that to reduce the persistent failure of students at the junior secondary school level, there is need to introduce and test other methods of teaching process. The results of this study showed that with the modified task-incorporated CALL courseware and a set of classroom activities in the constructivist classroom, students' interaction and participation greatly increased. This study therefore highlights and fills the gap by establishing the means of protecting and promoting the learning of Igbo through the use of technology –enhanced classroom environment.The use of the CALL intervention package was also advocated for, since it would also benefit the slow learners. This is because when teachers prepare interesting activities using computers which are fun and suitable for them it will automatically increase the students' level of motivation and reduce the anxiety level in them. This will in turn motivate them to learn Igbo and enhance their achievement in the language.

The reviewed literature also highlighted that with the modern technology development, the application of the Computer-Assisted Language Learning (CALL) programmes has become a new trend in recent global language learning instructions. Engaging in the Computer-Assisted Language Learning is a continuing challenge that requires time and commitment. Although we are in the 21st century globalization and technology - driven era, yet it is realized that technology is not the answer to all the problems. What really matters is the appropriate integration and utilization of the technology. Computers will never substitute teachers but they offer new opportunities for better language practice. The review therefore, highlighted some of the competences and skills teachers need to possess in order to demonstrate ICTs competency which will enable them to design ICT-based learning resources and environments and use ICTs to support the development of knowledge creation and critical thinking skills of students. They may actually make the process of language learning significantly richer and play a key role in the reform of a country's educational system.

CHAPTER THREE

METHODOLOGY

3.0 Preamble

This chapter discusses the design features and procedures used in carrying out the study. It is discussed under the following headings: Research design, Population of the study, Sample and Sampling Procedure, and the various instruments that were used for data collection. The research questions and hypotheses which gave direction and lent credence to the assumptions of the researcher were also highlighted. Also, various statistical tests used in the data analysis were discussed.

3.1 Research Design

Two major research designs were adopted in this study namely: (i) the survey design; and (ii) the pre-test post-test control group quasi – experimental design. The survey is used for baseline information concerning the prevalent instructional strategies in teaching the Igbo language at junior secondary schools. The quasi-experimental design was used to assess the effect of computer assisted language learning on the motivation to learn the Igbo language as well as academic achievement of JSS II students in Igbo in Lagos State, Nigeria.

The Quasi- Experimental Research Design was adopted for the validation of the developed computer assisted Igbo language multimedia intervention package. One of the groups (experimental) received the treatment and the other did not (control group). It analyzed the impact of computer assisted language learning on the academic performance of junior secondary school students in the Igbo language in Lagos State. The design features are represented in the table below:

Table 1: Pretest – Posttest Control group design

Groups	Pre-test	Treatment	Post -test
Experimental group(E)	O_1	X	O_2
Control group (C)	O_3		O_4

Key:

O_1 stands for experimental group pre – treatment assessment

X stands for experimental group treatment using ILLMu Package

O_2 stands for Experimental group post –treatment assessment

O_3 stands for Control group pre – treatment assessment

O_4 stands for Control group post – treatment assessment

The design consisted of two groups (Experimental and Control groups) and both of them were given pre- test (**O_1** and **O_3**) as pre- treatment assessment. The Experimental group was exposed to treatment (X) using intervention strategy named Igbo Language Learning Multimedia Package (ILLMuPac). Subjects of the control group were subjected to no-treatment except for the use of the lecture method but both experimental and control groups were later assessed using post-test instrument (**O_2** and **O_4**). Independent variable was Computer Assisted Language Learning strategy /traditional conventional method. Dependent variable was academic performance in Igbo, while the intervening variables which are the ICT skills competence of both teachers and students and the students' motivation to learn the Igbo language which were also explored. Variables of the study are represented in table 2.

Table 2: Variables for the Study

Independent Variable	Dependent Variable	Intervening Variables
Computer Assisted Language Learning of Igbo /traditional teacher- centred method	Academic Performance in Igbo	Motivation to learn Igbo language; Reading and writing skills acquisition of the students; Competence in ICT skills of both teachers and students : Home language of the students;

However, the study was carried out in two phases as shown below:

Phase 1 – Pilot Study

Phase 2 –Main Study

The pilot study was aimed at:

- determining whether the utilization of ILLMuPac will motivate junior secondary school students to study Igbo;
- testing the appropriateness of the research instruments;
- collecting preliminary data;
- assessing the proposed data analysis techniques to uncover potential problems;
- modifying or re-scaling the proposed research questions based on the information collected ; and
- testing the research procedures or processes

Additionally, the main study was conducted for the purpose of validating the proposed ILLMu intervention package.

Table 3: Phases of the Study

	Activities	Research Design
Phase 1- Pilot Study	Administration of pretest and posttest, students' questionnaire to experimental and control groups; validating the ILLMuPac with the experimental group; Administration of teachers' questionnaire; administration of learners' checklists for evaluating the ILLMuPac.	Survey and Quasi-experimental
Phase 2- Main Study	Administration and application of all the above on a larger scale.	Survey and Quasi-experimental

3.2 Population for the Study

The population for the study was all the JSS II students in the government-owned secondary schools in the Education District IV in Lagos State, Nigeria. This population comprised all the students enrolled for 2013/2014 academic session who were studying the Igbo language.

3.3 Sample and Sampling Technique

The sample for the study was two hundred and forty nine (249) junior secondary school students both male and female studying the Igbo language. Twenty Igbo language teachers were also selected for the study. All the participants were involved in the survey. Purposive sampling was used for this study since the primary concern is to acquire in-depth information from those who are in a position to provide them (Cohen, Manion & Morrison, 2011).Thus, purposive sampling technique was used to select three schools from the Lagos Education District IV for the study. The rationale for this technique was based on the fact that not all government –owned secondary schools offer the Igbo language as well as computer education at the junior secondary school level.

One hundred and twelve (112) students from three intact classrooms were assigned to the control group while another one hundred and thirty seven (137) students from another three intact classrooms were assigned to the experimental group, bringing the total sample size to two hundred and forty nine (249) students.

All the Igbo language teachers in the Education District IV constituted teacher respondents to the teacher survey instruments. Table 4 shows the distribution for the sampling

Table 4: Sampling Distribution

S/N	Schools	LGA	No. of Students
1	Itolo Community Junior Grammar School Control Group =Arms A=54 Experimental Group=B=34	Surulere	88
2	Aiyetoro Junior Grammar School Control Group= Arms A=48 Experimental Group = B=35	Mainland	83
3	Sari-Iganmu Junior Secondary School,Olodi Apapa Control Group = Arms A=46 Experimental Group =B=32	Apapa	78
Total			249

3.4 Rationale for Sample Selected

In selecting the schools and the students for the study, 3 criteria were considered:

- The school must be government – owned school, and with basic ICT facilities such as computer laboratories, computer instruction and Igbo language teachers, functional computers and standby generators.

- The school must have taught the Igbo language and computer education as their school subjects in the last three years.
- The school must have students offering Igbo language and computer instruction respectively as their school subjects.

3.5 Research Instruments

To achieve the research objectives, two categories of instruments are used. They are Response and Stimulus instruments.

Response instruments include:

- **Pre – and Post Igbo Language Performance Tests**

These were used to gather information on students' academic achievements in the Igbo language. It is a 40-item assessment test adapted and partly modified from the past questions of the junior secondary school certificate examination (JSSCE) relevant to the selected topics. The test instrument served as pre-test for ascertaining the initial achievement level of the participants in the two groups while the post-test was used for assessing the effect of the CALL intervention package i.e. Igbo Language Learning Multimedia Package (ILLMuPac) on the achievement in Igbo of the experimental group. All the participants in the experimental and control groups were provided with hard copies of the test instrument to enable them respond to the questions. The pre-test and post –test are presented in Appendix IV_a and Appendix IV_b

- **Prevalent Instructional Strategies Questionnaire (PISQ)**

A close ended questionnaire entitled 'Prevalent Instructional Strategies Questionnaire' was used for baseline data collection. It consists of two main sections: Part A (demographic information of the teacher) while Part B sought their responses on the prevalent instructional strategies during Igbo language classroom instruction. The teaching techniques and strategies used during the Igbo

language classroom instruction and the extent to which they promote student-centred instructional approach. This questionnaire has fourteen (14) instructional related strategies items for the teachers and twelve (12) items for the students. Students' PISQ was designed after the Likert type variables, while that of teachers' has four variables namely: Never (4) Seldom (3) Usually (2) Always (1).This is presented in Appendix I

- **Questionnaire for Students' Motivation to learn the Igbo Language**

This was developed to elicit information from the both control and experimental groups on the students' motivation to learn the Igbo language within the traditional instructional strategies. This questionnaire which contained twenty (20) motivation related items and designed after the Likert type was used to:

- Measure the students' attitude towards Igbo and their interest in the Igbo language.
- Assess students' evaluation of their Igbo teacher and that of the Igbo language.
- Measure students' desire to learn Igbo and their attitude towards learning Igbo.
- Assess students' perception of achievement improvement in Igbo and employment opportunities.

  This is presented in Appendix II.

- **Questionnaire forTeacher's ICT Skills Competence**

This was designed by the researcher. It enabled the teachers to self-rate their levels of ICT knowledge and skills. It sought to determine the computer skills assessment of the teachers. It was a close ended questionnaire Titled 'Teacher ICT Skills Competence Questionnaire' used for data collection. It was developed by the researcher following a review of similar instruments in the literature by Yildrim and Yildrim (2009). It has eighteen (18) basic computer skills related items and four variables namely: High (1) Average (2) Low (3) and Not at all (4). It consisted of

two main sections: Part A (demographic information of the teacher) while Part B sought their opinions on their ICT skills competence and the ways in which they use ICT tools and the extent to which they promote the use of ICT in students' learning. It also enabled the teachers to self-report their levels of ICT knowledge and skills.

- **Questionnaire Structured for the Experimental Group.**

This was developed for students' assessment of ILLMuPac on the Igbo language after the intervention.This was a 22-item researcher – designed instrument for pupils' opinion concerning: the appropriateness of the developed intervention package in the learning of the Igbo language;

- its impact on their reading and writing skills in Igbo; and
- its effect on their motivation to learn Igbo language using ILLMuPac

This is presented in Appendix III.

- **Stimulus Instrument:**

This comprises the Igbo Language Learning Multimedia Package which is the treatment administered to the experimental group. It is made up of lessons developed from Igbo topics selected from the Lagos State Unified Schemes of Work on the Igbo language for Junior Secondary Schools, but was developed by the researcher as a software for the teaching and learning of Igbo.

3.6 Development and Utilization of the Igbo Language Learning Multimedia Package (ILLMuPac)

The findings from the survey of prevalent instructional strategies being used by the Igbo language teachers in teaching Igbo showed that conventional and individualized method ranked high as the instructional strategies used by the Igbo language teachers. This confirmed the prevalence of teacher-centred instructional mode among the JSS Igbo language teachers.

Therefore, an intervention package named the 'Igbo Language Learning Multimedia Package' (*ILLMuPac*) was devised as a treatment package for student-centred mode of instruction and its impact on the JSS students' motivation to learn the Igbo language; the students' achievement in Igbo was also assessed.

When developing the software instructional package for the study, the researcher took into consideration the students' interests and needs, the instructional objectives as well as the interface design.

- **Students' Attributes:** The design was carried out taking the following students' needs and attributes into considerations:

i) Entry behaviour: Description of what the learner must know before entering into the learning programme, that is the base level of knowledge, skills and attitudes before the use of the modules.

ii) Learning objectives: This entails ordered sequences of what a learner should be able to do after going through the programme. They were taken from the stipulated objectives in the Unified Schemes of Work for JSS II.

iii) Learning steps: Here, the descriptions of how to perform the tasks/activities were explained.

iv) Performance test: This is the description of how well the tasks/ activities must be performed.

- **Interface Design:** The following important steps to get the desired result were also taken into consideration: –

(i) windows/buttons/colours/font type;

(ii) the interface to be user-friendly;

(iii) the sequence of the screen to be logical;

(iv) allowing users to browse without getting lost and users to always know where they are;

(v) the programme to be easy to use; and

(vi) the feedback mechanism to ascertain the level of knowledge acquired.

Content of the script/lesson plan for the package was developed by the researcher and the topics were chosen from the stipulated Igbo topics in the Unified Schemes of Work for the JSS II in Lagos State. The script/lesson plan was edited by Prof (Mrs) C. Ohiri – Aniche, an expert in the Igbo language. This is shown in the Appendix V.

The development of the intervention package followed the stages and phases of creating, developing and integrating digital materials for educational purposes into the classroom. The design and development of the package adopted six stages of the ASSURE Model of Instructional Design Intervention described by Henich, Molenda and Russel (1999). The activities of the ILLMuPac were based on the topics specified under the JSS II Igbo language in the Unified Schemes of Work for Lagos State. Devising a new interactive multimedia approach to the Igbo language learning permits alternative ways of organizing the specified content into teaching and learning units (modules or activities). This depicts that a new curriculum is not being proposed, but a set of techniques for mediating and increasing learning experiences in the Igbo language learning is being promoted.

3.7 The ASSURE Model (Henich, Molenda & Russel, 1999)

This model focused specifically on planning and conducting instruction that incorporates media in educational process. Its main perspective was how to integrate any kind of media into instruction in a proper and effective way in terms of intended learning outcomes. This

framework was chosen because it has become a framework frequently used in publications and discussions on introducing new technology in the teaching and learning processes. (Faryardi, (2012); Al Musawi (2011); KENPRO (2010); Shelly, Cashman, Gunter and Gunter (2006); Heinich & Smaldino, (2002) regarded it as the most appropriate for implementing instruction with the aid of technology media.

ASSURE is an acronym of the six stages Instructional Design Intervention (IDI) and stands for:

- Analyzing the learners:

In this model learners are analyzed. It involves their age, capabilities as well as the Igbo language competencies (if any) which the learners brought to the classroom. Most of the learners in this study came from homes with Igbo parental origin. They have also studied the Igbo language, at least, for the past one year.

- Stating the objectives:

Here the objectives of the model are set.The major objectives of the Unified Schemes of Work were used as the baseline for the model objectives. The Unified Schemes of Work was designed with emphasis on the acquisition of knowledge and skills associated with the contents of the New 9- year Basic Education Curriculum by the NERDC. Some of the objectives are:

Students should be able to:

- Hear and understand different educated varieties of the spoken form of the Igbo language spoken at normal speed;
- Speak and be easily understood by other speakers of the language;
- Read, at a reasonably fast rate, non – technical materials in the Igbo language and understand it readily; and

- Express him (her) self in writing in Igbo using the conventional forms of spelling, punctuation, and so on.
- Selection of the appropriate methods, media and materials:

Here, the contents are delivered using text, images, graphics, sounds, animations, and relevant media;

- Utilization of media and materials entails where the contents are utilized accordingly.
- Requiring Learner participation:

Here activities to test learners' academic achievement are provided: In this model, the learner participates by selecting activities from one of the topics on the modules for learning/ studying. After that, the learner will perform the tasks that follow before either moving to the next or return to the previous.

- Evaluation and revision mean that every step of the model evaluates the learner and, so, is a continuing task that follows the whole process and gives it a cyclic structure.

It is a classroom – oriented model that addresses the phases for a planning in the classroom use of instructional media.

This model is applicable to this study because the Igbo language learning tends to begin with those language skills which a child has acquired, then the ones he/she needs to know in order to interact and participate fully within the community. The pedagogical activities and interactions of the Igbo language included the methods, techniques and strategies of teaching, while the outcome comprised the effects (impacts) that the Igbo language learning might have on the individual student, the community and the entire nation.

The content of the courseware package was divided into the following modules or sub-topics:

- Introduction
- Module 1- Family – Types, members and their functions
- Module 2- Reading time in Igbo- seasons, months and days of the week
- Module 3- Numbering system
- Module 4 – Different types of animals categorized under wild and tame
- Module 5- Parts of human body

The courseware incorporates multimedia elements such as pictorials and audio components to depict different language skills to be acquired by the learner which would enhance his/her achievement in Igbo. The courseware is a representation of narratives whereby narratives, text, graphics and other learning objects were synchronized on the software timeline. The package is rich in visual representation and interactivity in both audio and video (multimedia). It also allows for non-linear navigation from modules, title, introduction, activities

The production including voicing, recording and packaging of ILLMuPac involved experts in Educational Technology and the Federal Radio Corporation of Nigeria. The script/the lesson plan was rehearsed and mastered by the presenter (voice-over artist) for familiarity and ease of voicing. The researcher did the voicing of the script because she worked as a newscaster, producer and presenter of programmes at Bond 92.9 FM, Igbo Service Unit of the Federal Radio Corporation of Nigeria, Ikoyi Lagos, Nigeria. The multimedia courseware package was segmented into five (5) modules presenting motion pictures with accompanying text and audio narratives, and visual pictorials of different topics from the Unified Schemes of Work for JSS II. The intention was to engage the user's sense of sight and hearing.

3.8 Validity of the Research Instruments

All the instruments were validated for content and face validity through the assessment and the input of experts. The five research instruments were subjected to validity tests during the pilot study to determine their appropriateness. Again, to enhance the adequacy of instruments viz-a-vis the research of this study, the researcher undertook an extensive review of literature on test development in language teaching and learning situations. In addition, to ensure the relevance and adequacy of the learning goals and content coverage of the ILLMuPac, a content analysis of the curriculum for the JSS II Igbo language programme was undertaken. Face validity and content validity were ensured through:

- Reviews of previous drafts of the survey instruments by the researcher's supervisors who are experts in the language teaching field.
- Revision of the drafts of the survey instruments and the ILLMu intervention package based on insights from literature and suggestions from language and technology experts.

The test content was validated by one of the supervisors, a professor of the Igbo language. The professor was asked to validate the content of the test with regard to test instructions, the relevance of questions, its suitability to the research goals and objectives, the number and arrangement of questions, and the suitability of the time allocated to the test. The remarks of the validating professor of Igbo, notes and suggestions were taken into consideration. The researcher made the necessary modifications before applying the test.

3.9 Reliability of the Research Instruments

This is a process of measuring how consistent an instrument is. A reliable instrument gives the same result every time, this does not imply that an instrument will produce identical scores every time but there is a correlation between scores or successive attempts (Busari &

Adekoya,2002).To determine the reliability of the instruments, a pilot study was conducted in one secondary school in Lagos State. The instrument was trial –tested on a sample of students during the pilot using test –retest approach. This was done by administering the instruments to 40 junior secondary school Igbo language students and 6 Igbo language teachers in their respective schools in the Amuwo Odofin of Education District V of Lagos State. They were not part of the main study but possess the same characteristics with the participants in the main study.

The correlation of the two sets of score for each instrument was tested using the Pearson Product Moment Correlation Coefficient. The following values were realized for co-efficient of reliability and were considered high enough to attest the the instruments' reliability.

Table 5: Table of Reliability of the Instruments

Variable	No. of Items	Test Position	$\overline{X}$ Mean	SD Std.Dev.	rt Reliability
Prevalent Instructional Strategies	22	1st 2nd	2.16 2.31	.581 .384	0.59
Academic Achievements Schedule	22	1st 2nd	2.32 2.44	.774 .780	0.83
Questionnaire for Students' Motivation to learn Igbo Language	40	1st 2nd	11.73 12.92	2.86 3.03	0.71
Questionnaire for Teacher's ICT Skills Competence	20	1st 2nd	2.29 2.35	.498 .444	0.63

It could be seen from table 3.5 that the reliability index yield ranged between 0.59 and 0.83. These values were high enough and consequently, the instruments were considered reliable and hence appropriate for the study as they were found to be stable over time.

3.10 Data Collection Procedures

A pre-test using the Igbo Language Achievement Test (ILAT) was administered to all the 249 students in the two groups (experimental and control) to determine their entry behaviour. ILAT is a 40-item multiple choice instrument based on the elements and principles of design and was used to measure students' cognitive ability.

The Igbo class teachers were trained by the researcher, and discussions held for two weeks before the exercise as regards the intervention and organization of the class sessions.

The regular Igbo classroom teachers taught both the control and experimental groups on the selected five topics. They used traditional teacher-centred method on the control group, while the experimental group was taught using the combination of teacher-centred method and ILLMuPac intervention strategy. Both groups were also taught on the same five different topics in Igbo which comprise Parts of Human Body; Different Types of Animals; Numbering Systems; Reading Time; Family and its Members.

After due intervention treatment, the post – test achievement test was administered to the two groups to find out the measurable distinction in their learning as a result of ILLMuPac.

Finally, the questionnaires were distributed to the experimental group to measure and evaluate the level of satisfaction the ILLMuPac had on their achievement; motivation for learning the Igbo language using the intervention package; and their language skills development in Igbo after being exposed to the developed CALL intervention package.

3.11 Administration of the Instruments

The researcher undertook a familiarization visit to the schools selected for the study with an identification letter duly signed by her principal supervisor. She met the principals of the schools and acquainted them with the purpose of the study and also sought their consent and cooperation

in using their JSS II Igbo students for the study. During the visit, the researcher solicited the assistance and support of their Igbo classroom teachers and their computer teachers / laboratory attendants (for the experimental group only) in fixing the date for the commencement of the administration of the research instruments. The Igbo class teachers were trained by the researcher, and discussions held for two weeks before the exercise as regards the intervention and organization of the class sessions. Pre-test and post-test materials were numbered for ease of identity of participants.

3.12 The Intervention

On the agreed date, the participants were briefed on the rationale behind the exercise and necessary instructions were given on how to respond to the pre-test. The researcher with the help of the research assistants administered the pre – test (paper version) to both the control and experimental groups before the commencement of the study. Then, both groups received instruction through different media for ten weeks. During the ten weeks. The text *Nkụzi Igbo Maka Junịọ Sekọndịrị N'usoro Bezik* written by Okafọ, Osuji & Ụwakwe (2009) was used to teach the two groups since it is the recommended text for the teaching and learning of Igbo in the Lagos State secondary schools. The ILLMuPac was installed on the desktops in the computer laboratory for the experimental group to use them. Students also have the option of using the CD versions of this material. For participants instructed by conventional strategy, lessons and practice tests on this CD were converted to paper lessons and tests. The participants in the experimental group had the opportunity of working alone on a computer and learned at their own pace after the instructional ILLMuPac class lessons. The Igbo teachers combined both face to face and CALL instructional strategy during teaching/learning process for the experimental group. The teacher acted as a facilitator and instructor by making sure that the participants were

working on their computers and also gaining the knowledge of the lesson. The teaching materials have been arranged sequentially in the package in advance. The computer instructs, permits practice and provides feedback. Colour animations and graphics were combined to enable the computer enhance the students' learning. Here the presentation was in Igbo with the necessary use of English as suggested by experts.

The participants in both the experimental and the control groups met with their instructors for one and half hours each week during the ten weeks. The same materials (printed and paper versions of the lesson and practice tests) were used according to the scheduled time agreed by the Igbo classroom teachers and the researcher. The teachers presented instructional materials with graphical presentation to make the learning more concrete for the control group. Here, the instructor was the director of the class. The instructor used other traditional teaching aids but not ILLMuPac. The researcher was also supervising and interacting with the teachers who did the teaching.The Conventional strategy offers group learning in the traditional environment. It was thoroughly a presentation in the Igbo language and the instructor used English intermittently for more explanation with the aid of the whiteboard and marker. On the last day of the classes, the same test given as post – test was administered but this time interchanged the positions of some items and some items were added while some were removed based on the topics taught during the intervention strategies. The scores obtained by the two groups during pre – test and post –test were statistically analyzed.

3.13 Development of an Interactive Model of Igbo Language Teaching and Learning

An interactive model of Computer Assisted Language Learning was developed in order to present in graphic terms the various elements that come into play in teaching and learning of Igbo language using computer.

3.14 Screenshots of the Application

Brief snapshots of the modules in the ILLMuPac used for intervention by the experimental group during the study were shown on figures 2- 6 under the appendixes.

Login Module:

This is the module where the user is given access into the system once the application has been invoked. It requires the user to enter a username which was given to them before the commencement of the lesson.This can be seen in screenshot 1.

Select Activity Module:

This is where the user chooses the activity that he/she wants to learn after being given access. This is shown in screenshot 2

Learning Activity Modules:

These modules cover the learning /studying of the activity selected by the user. One activity differs from the other. There are several learning – activities under this module developed from topics on the Igbo language chosen from the Unified Schemes of Work for JSS II in Lagos State. They are: Parts of Human Body; Different Types of Animals; Numbering Systems; Reading Time; Family and its Members. The user would first of all select a learning activity and afterward click the sound button to play the lesson. These were shown in screenshots 3a and b.

Test Modules:

This module tests the knowledge acquired by the user after going through a particular activity. These are shown in screenshots 4a, b and c.

Correction Modules:

This is where the user views the answers to the questions and has the opportunity to go back and answer the questions again or proceed to the next activity module as shown in screenshots 5a and b.

The activities of the ILLMuPac were based on the topics specified under the JSS II Igbo language in the Unified Schemes of Work for JSS II in Lagos State. Devising a new interactive multimedia approach to Igbo language learning permits alternative ways of organizing the specified content into the teaching and learning units (modules or activities). This depicts that a new curriculum is not being proposed, but a set of techniques for mediating and increasing learning experiences in the Igbo language learning is being promoted.

3.15 How to Use the Intervention Package

Once the ILLMuPac is launched, the user logs in by typing in his password. The user can select any of the following activities.

- Introduction
- Module 1- Family – Types, members and their functions
- Module 2- Numbering system
- Module 3- Parts of the human body
- Module 4 – Different types of animals categorized under wild and tame
- Module 5- Reading time in Igbo- seasons, months and days of the week

Once the window for a particular activity comes up, the *sound* button is then clicked to play the sound that delivers the pronunciation aspect of the materials presented. '*Next*' button is provided to learn more and '*Back*' button to repeat any previously learned materials. For each activity, a

test module is presented for the user to evaluate how much he/she has learned.There is also a correction of the test once the '*answer'* button is clicked on the test window. The '*Menu*' button on the test window permits the user to select an activity he/she wants at any point in time. The '*Quit*' button is provided on the main window to leave the application.

3.16 Igbo Language Achievement Intervention Test (ILAT)

A researcher- developed Igbo Language Achievement Test (ILAT) was also used for data collection. The ILAT consisted of 40 multiple choice objective items adopted from past examinations of Junior Secondary School Certificate Examinations (1999 – 2012)written by Dagundro(2012) based on the topics from their recommended Igbo language textbook – *Nkụzi Igbo Maka Junịọ Sekondịrị N'usoro Bezik (*Okafọ, Osuji & Ụwakwe,2009). The test (ILAT) was based on the content of the ILLMu package. Each of the stems of the ILAT had four options (A-D) as possible answers to the question. Students were required to tick one of the letters (A-D) that corresponds to the correct option in each item. This instrument was administered to both the control and experimental groups.

At the commencement of the experiment, ILAT was administered to the students in the sampled schools as pre-test. The ILLMuPac was installed on stand-alone computer systems. The Igbo language contents were presented through the computer for the learners to interact and respond to the computer prompts. The computer presents information and displays animation to the learner on each of the unit after which the student attempt some multiple – choice questions.

3.17 Analysis of the Igbo Language Achievement Test

The answer scripts collated from each group were later marked and scored. A marking scheme earlier used by the examination body (NECO) for JSSCE vetted earlier by the Igbo language

experts was used as a guide. Using SPSS V.15 statistical package, scores of both pre-test and post- test were computed against participants.

3.18 The Pilot Study

A pilot study was conducted in January, 2013 in Amuwo Junior Grammar School, Agboju in Amuwo Odofin Satellite Town, Ojo Lagos State. The aim was to verify the design of the experiment and to evaluate the experimental instruments and arrangements.

Effective learning on the part of the students is the ultimate objective of any teaching and learning**.** Since the consistency, accuracy, reliability and validity of the research can determine its quality, it is important to gauge the effectiveness of the procedure before it is applied in the actual research so that it may still be possible to refine and improve if necessary. It has to be conducted prior to the main research and this often leads to the modification and improvement of the instruments. Therefore, trying out the Igbo Language Learning Multimedia Package **(**ILLMuPac) over a group of students who are not members of the research sample is very crucial so as to help in scrutinizing the ILLMuPac package. As the Amuwo Junior Grammar School Satellite Town, Ojo had computer laboratory facilities which are used for the teaching and learning of computer education instructions, permission was sought from its principal to carry out the pilot study in the school. The participans comprised the experimental group made up of fifteen (15) students while the control group was made up of twenty-five (25) students. The experimental group was also assigned the Computer Assisted Igbo Language Learning Package. This was carried out by the school's routine Igbo class teacher with the support of their computer teacher / laboratory attendant and the researcher. The ILLMu package was presented to the students and their work and responses were gathered.

3.18.1 Summary of Findings from the Pilot Study

The findings indicated that the participants of the study had positive motivation towards the use of computers in Igbo language teaching and learning. The students responded that they found the use of ILLMuPac in learning the Igbo language quite useful.

The result indicated that the school in question does not have a language laboratory but some computer laboratory facilities for computer education instructions. Hence, using the Computer Assisted Language Learning in the form of ILLMuPac in the teaching and learning of the Igbo language might be difficult. But the situation might be ameliorated in most schools that want to benefit from the use of ILLMuPac.

The result showed that ILLMuPac could help to improve students' reading skills in Igbo language. This means that the neglect that this subject is suffering could be as a result of lack of motivation to study it .This might be overcome by the use of ILLMuPac in the teaching and learning of the Igbo language in the junior secondary schools.

It was also found that most government schools visited had computer assisted facilities but there was no provision for making use of them. Most of the computers were not yet connected for proper use; in some schools, there was no computer education teacher, even in some cases there were no computer rooms as all the computer facilities supplied by the government were neatly packed in the principal's office.

3.18.2 Gains from the Pilot Study

The results obtained from the pilot study have helped the researcher in analyzing the research questions raised and in testing the hypotheses generated for the study. The experience gained also helped in fine –tuning and validating all the research instruments earlier described. The

procedures for the administration of instruments including computation and scoring lasted for three months. The results gathered through the pilot study assisted in the adjustment of the instruments to strengthen their validity and reliability. The procedures for data gathering were also reviewed and modified for the main study while technical lapses and logistics problems encountered during the conduct of the pilot study were avoided and subsequently corrected during the main study.

3.19 Data Analysis Techniques

The test statistics (TS) and statistical tools adopted for data analysis are:

- The percentages and frequencies
- The t-tests, mean and standard deviation; and
- Analyses of Covariance (ANCOVA).

CHAPTER FOUR
PRESENTATION DATA AND RESULTS

4.0 Preamble

This chapter takes up the presentation of data generated in the main study. It also interprets the results obtained and draws some useful conclusions from them. Discussions were focused on findings relative to the research questions that were earlier raised:

- Will there be any differential effect of the CALL intervention package on the experimental subjects' motivation to use it in learning the Igbo language?
- To what extent has the CALL intervention package made a difference on the post –test achievement scores of students in Igbo?
- What difference has the CALL intervention package made in students' reading and writing in the Igbo language?
- What interaction effect has the CALL intervention package and the students' language of the home on the students' achievement in Igbo?
- What are the prevalent instructional strategies in the teaching of the Igbo language at the JSS level?
- What is the ICT competency level of the Igbo language teachers?

4.1 Presentation of Data and Results

The Statistical Package for the Social Sciences (SPSS) 15.0 version was adopted for the analyses of the data. Mean and standard deviation were used for research questions 1-4. Data collected from the survey were analyzed using descriptive statistics like percentages resulting from frequency counts to calculate results for the research questions five and six. T-test was used for

hypotheses one, two and three, while hypothesis four was tested using t-test and ANCOVA. The alpha value used for accepting or rejecting the hypotheses was 0.05.

Research Question 1: Will there be any differential effect of the CALL intervention package on the experimental subjects' motivation to use it in learning the Igbo language?

H_{O1}: There is no significant differential effect of the CALL intervention package on the students' motivation to learn the Igbo language**.**

To test this hypothesis, the mean(x) scores and standard deviation of subjects for pre-test and post-test scores were first computed. Then, the independent t-test statistical technique was used to determine whether or not there was a significant differential effect of CALL intervention package on the students' motivation to learn the Igbo language for both groups.

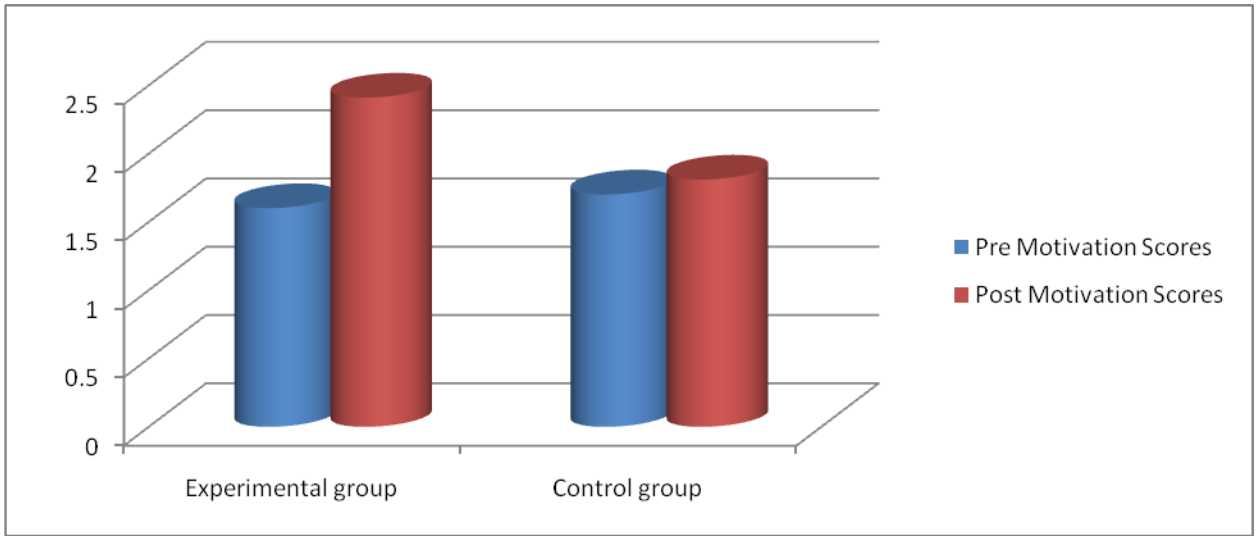

Figure1 Pre and posttests Igbo motivation test scores of students in the experimental and control group

The result of the analysis is presented on table 6.

Table 6: Pre and post study motivation scores of the experimental and control groups

Group	N	Pretest-motivation Score		Posttest-Motivation Score		Mean Differ	t-test	p-value
		Mean	SD	Mean	SD			
Experimental group	137	1.597	.2735	2.400	.50547	0.803	6.66	0.00
Control group	112	2.701	.3334	2.910	.43097	0.209		
Total	249	10.725	4.5537	2.631	7.727	1.012		

t-value Significant at ρ< .05; df=

Table 6 shows that the experimental group appeared to have made significant improvements over the control group. The experimental group has a higher mean difference score of 0.803 as against control group with a mean difference of 0.209. To determine if the difference in the post-test mean scores of the experimental and control groups was statistically significant, t-test statistical tool was used and the result showed that the difference between the mean scores of the experimental and control groups was statistically significant at (t= 6.66, ρ>.05). Thus, the null hypothesis which stated that there is no significant differential effect of the intervention package on motivation scores of the Igbo students was rejected while the alternative was retained. The result showed that learning with computer simulation is more effective than the traditional Igbo language teacher – centred instructional method in enhancing students' motivation in Igbo language.

Research Questions 2: To what extent has the CALL intervention package made a difference on the post –test achievement scores of students in Igbo?

H_{O2}: There is no significant difference between the post – test achievement scores of students of experimental and control groups

To test this hypothesis, the mean (x) scores and standard deviation of students for both the pre-test and post-test scores were calculated before using the independent t-test statistical method to verify whether or not there was a significant difference in the post-test achievement scores of quasi-experimental and control groups.

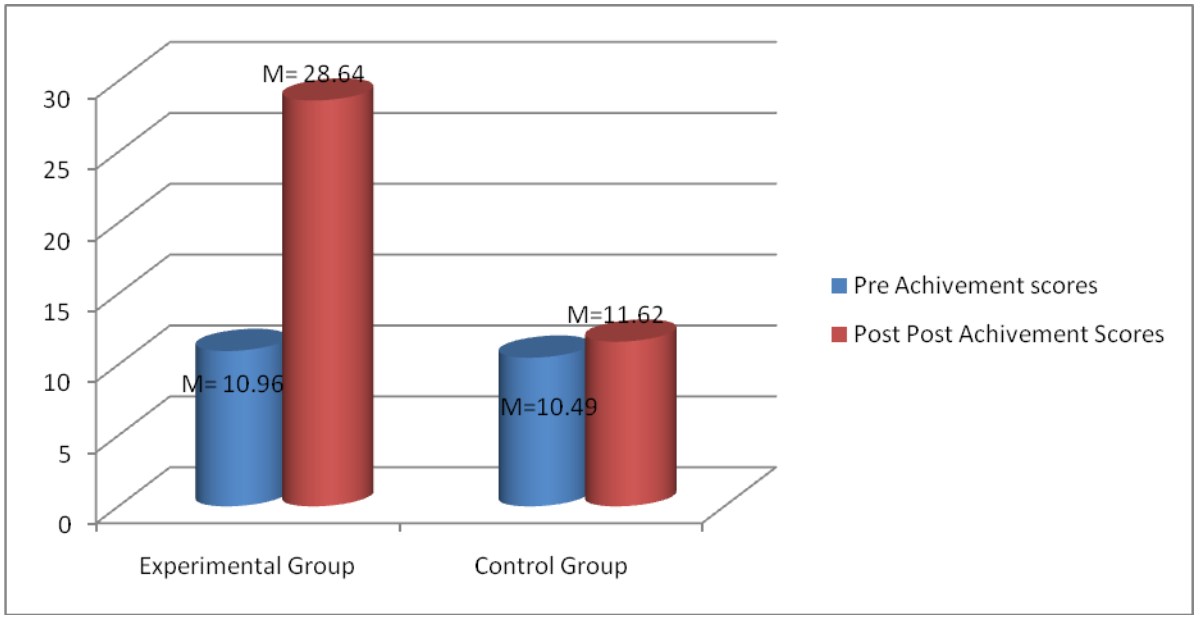

Figure2: Pre and Posttests Igbo achievement test scores of students in the experimental and control groups.

The result of the analysis is presented on table 7.

Table 7: Pre and post achievement scores of the experimental and control groups

Group	**N**	**Pre- achievement Score**		**Post – Achievement Score**		**Mean Differ**	**t-test**	**p-value**
		Mean (X) Scores	SD	Mean (X) Scores	SD		13.3	0.00
Experimental group	137	10.960	4.7735	28.640	9.397	17.68		
Control group	112	10.490	4.3334	11.620	3.058	1.13		
Total	249	10.725	4.5537	22.63	7.727	9.13		

t-value Significant at ρ< .05

Table 7 indicates statistically insignificant mean scores for the experimental group(X=10.960; SD=4.7735) and the control group (X=10.490; SD=4.3334).This confirms that the two groups were essentially equivalent on achievement scores in Igbo before the treatment. Also, table 7 shows a higher post-test mean (X) score for the experimental group (X= 28.640; SD=9.397) than the post mean scores (X=11.620; SD=3.058) of the control group. This means a statistically significant effect of the intervention package on students' achievement scores in Igbo.

Thus, table 7 shows that the experimental group appeared to have made differential improvements over the control group. The experimental group has a higher mean difference score of 17.68 as against the control group with a mean difference of 1.13. To determine if the difference in the post-test means scores of the experimental and control groups was statistically significant, t-test statistical tool was used and the result shows that the difference between the mean scores of the experimental and control groups was statistically significant, (t= 13.30, ρ>.05). Thus, the null hypothesis that stated that there is no significant effect of the intervention package on students' achievement scores in the Igbo language was rejected, while the alternative was retained. The result showed that learning with the CALL intervention method is more effective than the traditional Igbo language teacher- centred method.

Research Question 3: Is there a difference in the reading and writing achievement of students in Igbo as a result of the CALL intervention package?

H_{O3}: There is no significant differential effect of the CALL intervention package on the students' achievement in reading and writing in Igbo.

To test this hypothesis, the mean (X) scores and standard deviation of students for both the pre-test and post- test scores in reading and writing were calculated before using independent t-test

statistical technique to verify whether or not there is a significant differential effect on the reading and writing achievement of both groups. The results of the analysis of the data are presented on table 8.

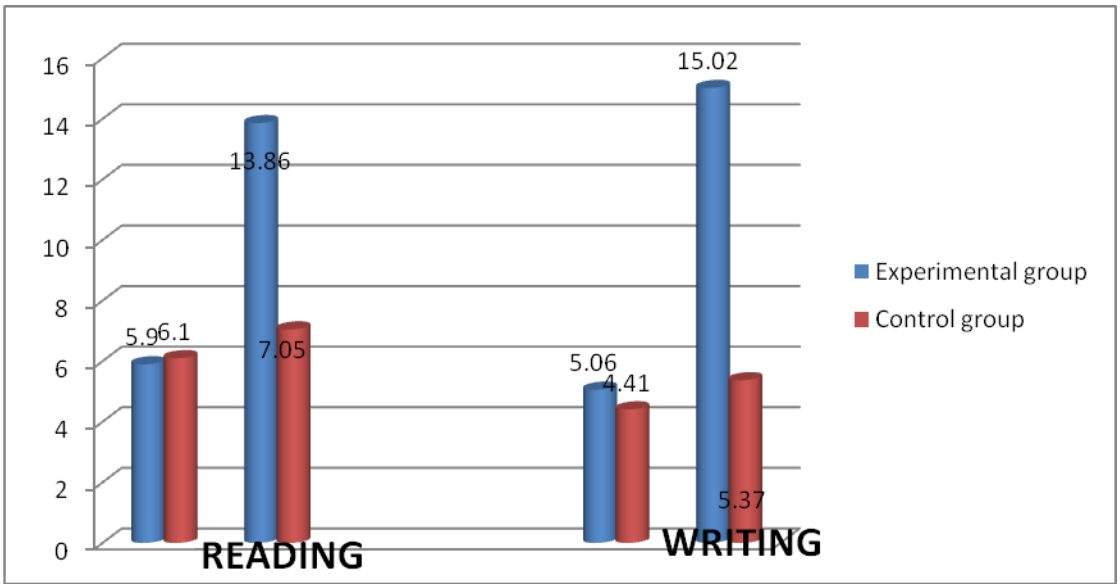

Figure3: Pre and post Reading and Writing achievement scores of the experimental and the control groups.

Table 8: Pre and post reading and writing skills achievement scores of the experimental and the control groups

Variables	Group	N	Mean (X) Scores	SD	Mean Differ	t-test	p-value
Reading							
Pre test	Experimental group	137	5.90	2.47		..894	.374
	Control group	112	6.10	2.48	-0.20		
Post test	Experimental group	137	13.86	4.68		4.814	.000
	Control group	112	7.05	2.48	6.81		
Writing							
Pre test	Experimental group	132	5.06	2.66		1.199	0.09
	Control group	112	4.41	2.26	.650		
Post test	Experimental group	137	15.02	6.01		16.122	0.000
	Control group	112	5.370	2.91	9.65		

t- Value is Significant at ρ< .05

Table 8 shows the mean (X) scores for the two groups on the pre-test and post- test in the reading and writing skills. A comparison of the pre-test mean (X) scores reveals that there is no statistically significant difference between the experimental group (Reading X= 5.90; SD=2.47, Writing= 5.06; SD= 2.66) and the control group (Reading X= 6.10; SD= 2.48, Writing X=4.41 SD=2.26) prior to intervention treatment on reading and writing skills achievement since t= .894 at p=374 for experimental and since t= 1.199 at p=0.09 for the control group.

However, with regard to the post-test reading mean scores, the result from the table indicates a statistically significant difference between the experimental group (X=13.87; SD= 4.68) and the control group (X=7.05; SD = 2.48) as a result of the intervention treatment since t= 4.184 at p=0.000.

Also, with regard to the post-test writing skills achievement mean scores, the result from the same table 8 indicates a statistically significant difference between the experimental group (X=15.02; SD= 6.01) and the control group (X=5.37; SD=2.91) as a result of the intervention treatment since t= 9.65 at p=0.00. The null hypothesis which stated that there is no significant differential effect of the CALL intervention package on the students' reading and writing skills achievement in Igbo was rejected. In conclusion, the result indicates a significant differential effect of the CALL intervention package on the students' reading and writing skills achievement in the Igbo language.

Research Questions 4: What interaction effect has the CALL intervention package and the students' language of the home on the students' achievement in Igbo?

H_{O4}: There is no significant interaction effect of the CALL intervention package and students' language of the home on achievements of students in Igbo.

To test this hypothesis, the mean (x) scores and standard deviation of the students' language of the home and varying test scores of the students were calculated. A 2 x 3 Analysis of Covariance (ANCOVA) of the post test scores between groups and students' language of the home was used to verify whether or not there is a significant interaction effect of the treatment on the groups. The results of the analysis are presented on table 9.

Table 9: Summary of ANCOVA on the effect of the CALL intervention package and students' language of the home on academic achievement in Igbo

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1230.060(a)	42	29.287	1.657	.039
Intercept	5038.670	1	5038.670	285.128	.000
Intervention	999.055	27	37.002	2.094	.010
Spoken language	4.142	1	4.142	.234	.630
Intervention * Spoken language	171.839	14	12.274	.695	.770
Error	971.940	55	17.672		
Total	13754.000	98			
Corrected Total	2202.000	97			

a. R Squared = .559 (Adjusted R Squared = .222)

The results on table 9 show that there is a significant effect of the the CALL intervention package and achievement of students in the Igbo language. This is because the calculated F-value of 2.094 in respect of the CALL intervention as main effect is shown to be significant at p> .05. This indicates that exposing students to CALL intervention integrated teaching and learning improves their achievement in the Igbo language. However, to determine the interaction effect of the CALL intervention package and language of the home on achievement of students, the result from the table shows no significant interaction effect, since F-value = .695 is not significant at

p>0.05 given (df=14, 98) degrees of freedom. Thus, the null hypothesis that states there is no significant interaction effect of intervention package and home language on achievement of students in the Igbo language was retained.

Research Question 5: What are the prevalent instructional strategies used in teaching the Igbo language at the JSS level?

Table 10: Frequency distributions of Igbo instructional strategies in junior secondary schools (N=249)

S/N	Instructional strategies	Grouped Responses		Percentage	Rank
		Students	Teachers		
1	Conventional Method	155	15	68.2%	1st
2	Individualized Method	123	8	52.6%	2nd
3	Discussion Method	58	9	26.9%	6th
4	Project Method	107	9	47.0%	5th
5	Demonstration Method	45	12	22.8%	7th
6	Dramatization	121	4	50.2%	3rd
7	Field Trip Method	43	_	17.2%	8th
8	Assignment Method	113	9	48.99%	4th
9	ICT integrated approach	19	1	8.03%	9th

From the result of analysis presented in table 10, conventional and individualized methods ranked high as the prevalent instructional strategies adopted by the Igbo language teachers in teaching the Igbo language at junior secondary school level. Other methods in their order of usage include dramatization, assignments, project and discussion methods. While ICT integrated approach, field trip and demonstration ranked the least methods adopted by the Igbo language teachers during classroom instruction of Igbo. The results showed a predominance of teacher-centered approach in most classroom sessions thereby inhibiting active, interactive and student-centred approach. This result probably accounts for the low motivation and low language skills acquisition in Igbo among the junior secondary school students. Therefore, it is required that the Igbo language experts should direct their attention towards improving the teaching techniques often used by the Igbo language teachers in delivering their lessons.

Research Questions 6: What is the ICT competency level of the Igbo language teachers? (N=20)

Table 11: Frequency distribution of ICT competency level of the Igbo language teachers

S/N	Statements (Level of Competency in all the area listed)	High	Average	Low	Not at all	Mean
1	Starting and logging off a computer	3 (15%)	4 (20%)	9 (45%)	4 (20%)	2.30
2	Understands basic computer terminology like- boot, navigate, etc.	-	4 (20%)	7 (35%	9 (45%)	1.75
3	Keyboard skills and handling the mouse	1 (5%)	1 (5%)	9 (45%)	9 (45%)	1.70
4	Checking, composing and sending emails	-	1 (5%)	10 (50%	9 (45%)	1.60
5	Inserting and ejecting CDs in computer	1 (5%)	2 (10%	9 (45%)	8 (40%)	1.80
6	Creating, bolding and italicizing text	-	3 (15%)	12 (60%)	5 (25%)	1.90
7	Use of Videos, audio players sound for movies and music	-	2 (10%)	15 (75%)	3 (15%)	1.95
8	Use of cameras on the computer for snapshots and recording sounds	1 (5%)	1 (5%)	13 (65%)	5 (25%)	1.90
9	Use of ICT software on personal computers for teaching	-	2 (10%)	10 (50%)	8 (40%)	1.70
10	Saving documents on flash drive, CD and other external storage desktop	-	2 (10%)	13 (65%)	5 (25%)	1.85
11	Creating and naming folders on the computer	1 (5%)	2 (10%)	8 (40%)	9 (45%)	1.75
12	Use of computer simulations to make abstract topic easy	1 (5%)	2 (10%	12 (60%)	5 (25%)	1.95

Table 11 shows the ICT competency level of Igbo teachers in the junior secondary schools. The results indicate that a majority of the teachers reported a low competency level in starting and logging off a computer with a mean value of 2.30, using basic computer terminology-booting,

navigating, etc; (M=1.75); keyboard skills and handling the mouse (M=1.70); checking, composing and sending emails (M=1.60); inserting and ejecting CDs in computer (M=180); creating, bolding and italicizing text (M=1.90); use of videos, audio players sound for movies and music (1.95); use of cameras on the computer for snapshots and recording sounds (1.90); use of ICT software on personal computers for teaching (M=170); Saving documents on flash drive, CD and other external storage desktop (M=1.85); Creating and naming folders on the computer desktop (M=1.75); the use of computer simulations to make abstract topics easy (M=1.70). From the result it can be deduced that a majority of the teachers reported a poor ICT skills competence.

4.2 Discussion of Findings

Computer assisted language learning intervention package and students' motivation to learn Igbo in the experimental group

According to Gardener (2001), the motivation to learn a language has three elements: desire to learn, effort and affect. In the course of the study, it was found out that the students displayed a strong desire to achieve the goals by learning the Igbo language; they also expended all possible effort persistently and consistently to learn the Igbo language; and they showed interest in learning the Igbo language. They enjoyed the activities in the ILLMuPac and were motivated. This led to the successful accomplishment of the goals by their improved scores.

The finding showed that there is a significant effect of the ILLMuPac on the motivation scores of students to learn Igbo. Again, the results of the present study also showed that integrating ICTs into language classroom teaching and learning would yield improved achievements and active learning as supported by Yusuf and Afolabi (2010) and Gambari, Kutigi and Fagbem (2014).

During the study, it was noted that the flexibility and other features (like ability to integrate graphics, animation, video, etc.) of the CALL intervention package helped to accommodate

different stimuli, which are possible reasons for engaging and motivating the students to learn more the language under study.It was found out during the study that learning the Igbo language with the ILLMuPac is more effective than the traditional Igbo language teacher – centred method in stimulating students' motivation and interests in Igbo. This position is in accordance with the findings of Cuban (2001) who pointed out that computers were sometimes believed to transform teacher pedagogical practices from being teacher-centred to being student – centred ones.

Effects of the intervention package on Igbo reading and writing achievements of the junior secondary schools students.

The findings showed significant effect of the intervention package on the students' reading and writing achievements in Igbo. This finding corroborates the reports of Almekhlafi and Almeqdadi (2010), and AbuSeileek (2004) that there was substantial difference in students reading and writing skills language achievement as a result of integrated ICT resource intervention.This finding is also in congruence with the work of Gambari et al (2014) who noted low utilization of ICT in the teaching of indigenous languages in most Nigerian schools and advocated for the integration of ICT in language pedagogy to help develop the communicative competence of the students in indigenous languages.

Effect of the intervention package and students' language of the home on students' academic achievements in the Igbo language

The researcher observed during the course of the study that students, irrespective of their parental language origin are positively inclined to working with the *ILLMuPac* and found it very useful in learning Igbo. The language of the family has no interaction with the use of ILLMuPac because it was observed during the study that some students who were from Bini and Ijaw speaking groups enjoyed using the CALL intervention package to learn Igbo. Hence, the majority preferred to use the package as a supplement to the face-to-face teaching and they also

enjoyed using it because they felt it helped them to learn and improve on their achievements in Igbo. They also enjoyed having their teacher supervising them while using the package individually.

This is in congruence with the work of Ghabanchi & Anbarestani (2008) who reported that utilization of integrated ICT package in language learning improves students' language skills, vocabulary and grammar. They prefer to learn while having an instructor present in the computer laboratory because it increases their learning potential.

The use of the ILLMuPac during the Igbo language learning instruction also had positive varying effects on the students' attitudes towards the language, and helped to improve their achievement in Igbo. Thus, findings from the study indicated no significant interaction effect of the ILLMuPac and students' language of the home on their academic achievement in the Igbo language.

Prevalent instructional strategies used in the Igbo language classroom instruction at the junior secondary school level

The findings showed that conventional and individualized methods of instruction ranked high as the prevalent instructional strategies adopted by the Igbo language teachers in teaching Igbo in junior secondary schools. This, therefore, confirms the use of the teacher- centered method as against the student- centered method stipulated by the National Policy on Education (NPE, 1977 revised 2004,2013). This also negates the constructivists' paradigm which places a greater primacy on personal knowledge construction. Thus, the Igbo language classroom activities and procedures have been teacher- centred as asserted by Okodo (2012) and Omeje (2009).

Again, the research findings on the prevalent instructional strategies revealed that teacher-centred instructional mode is prevalent in the Igbo language learning classrooms. It is therefore

being suggested that there is need for content developers and curriculum designers to develop appropriate ICT enhanced curriculum content and engaging activities that would take into consideration technological tools available in the Nigerian secondary schools. This should be in accord with the findings of Green et al. (2008 cited in Anyika, 2011) that introducing technology into schools without sufficient curriculum-related ICT – enhanced content is like building roads but without making cars available. Also, it would agree with the findings of Tsumba (2014) that in order to modernize our educational system, we must introduce and develop our learning methods which are readily offered by the developments in ICT (Tsumba, 2014).

The researcher holds that the Igbo language teachers and the curriculum experts with specialization in different areas of language learning should come together to develop appropriate content that will take into cognizance the context, the level and the previous knowledge of their students, with a view to having in place engaging activities and support materials that are channeled to meeting the students' language needs.

In addition, the researcher believes that appropriate instructional methods, strategies and techniques should be put to good use in order to enhance the teaching and learning of Igbo. Teachers generally need to prepare and plan adequately for their classes. The Igbo language teachers even have to go the extra mile in this preparation to devise better means of helping their students, considering the fact that their students are in an environment that is technology driven and not too favourable to the language under study. The researcher considers it worthwhile for the Igbo language teachers to come together to brainstorm and bring in their expertise and experiences together to design a technology - enhanced/based approach that will be relevant to their context and responsive to their students' needs and teaching objectives. This is very crucial

and in support of by Larose and Peraya (2001 cited in Anyika, 2011) that the presence of frameworks could help teachers to integrate ICTs as they strive with students in the classes.

Researchers have also shown that a lack of appropriate models for technology use in language teaching and learning constitutes a barrier to the adoption and integration of technology tools in language classroom instruction (Anyika, 2011; Karsenti & Larose, 2001 cited in Anyika, 2011; McCarthy, 1999). The findings of this present research have also confirmed that traditional teacher- centred mode of instruction is prevalent in the Igbo language classrooms used for the study; student – centred instructional mode is being advocated for so that the Igbo language would not be left out in this technology driven era. There is need for an appropriate model or approach for the adoption and integration of the technology tools to promote the student – centred instructional method in the Igbo language classroom.

Hence, this study has tried to fill this gap through the development of a technology – enhanced approach to Igbo classroom instruction.

Lastly, without claiming to have brought ready-made solutions, it is the researcher's expectation that this simple approach will pave way for the Igbo language teaching and learning. The enhanced technology tools will substantially direct effective language learning, which would also motivate the Igbo language students to learn Igbo. They will use the technology tools to perform different classroom activities (listening, speaking, reading, writing, reacting, responding, dramatizing, etc.) which would help them at the long run to improve on their achievement in the language of study.

The application of Constructivism and Connectivism theories as well as role of motivation in the Igbo language learning processes is graphically explained in figure 4, which is the approach for the adoption and integration of the ICT tools in the Igbo language classroom.

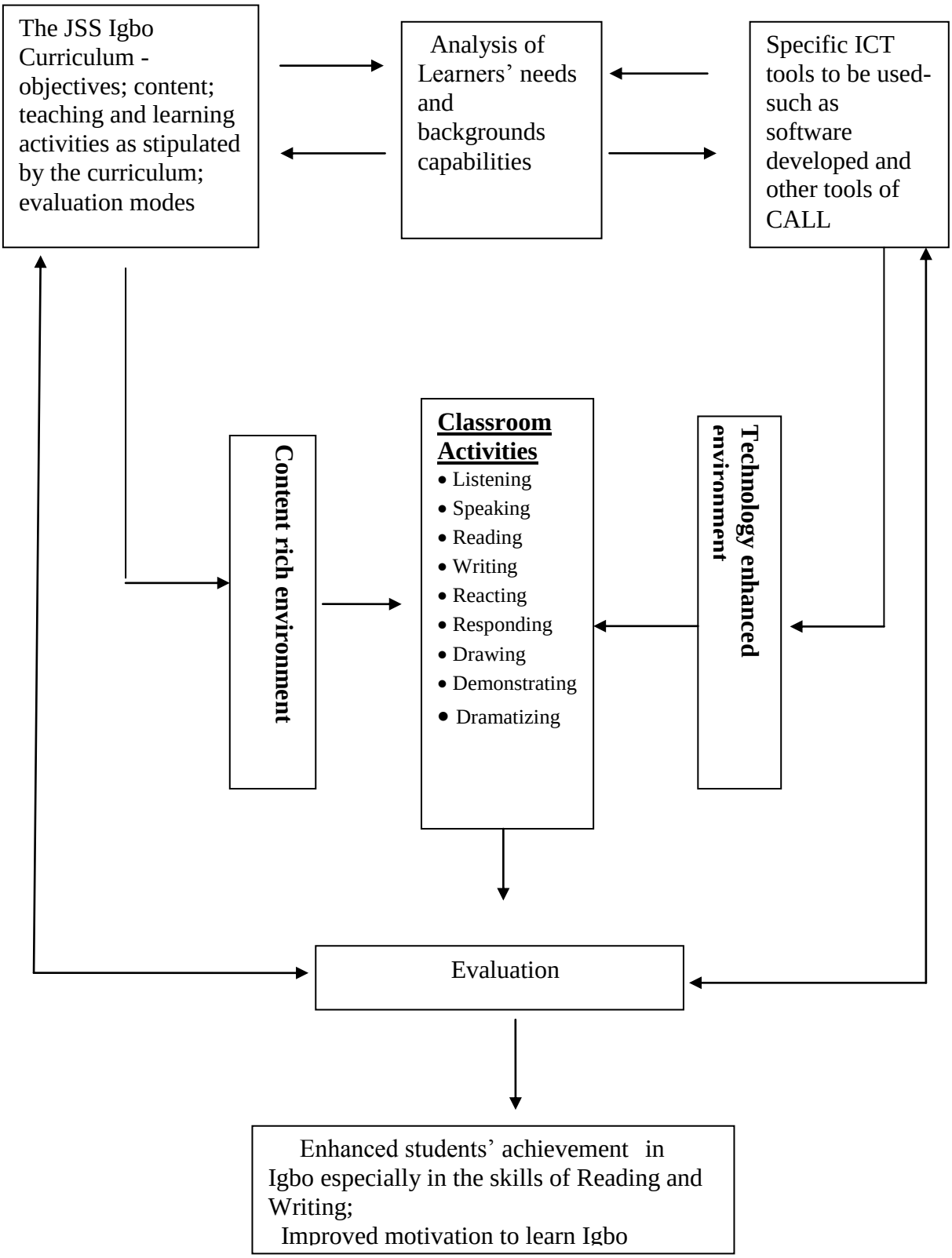

Figure 4: A Technology-Enhanced Approach for the Igbo language teaching and learning (based on the researcher's personal and field experiences)
Explanation of the Technology – enhanced Approach

Based on the researcher's field and personal experiences of what she feels could work well and yield positive results for the Igbo language students and teachers, effort is aimed at helping the Igbo language teachers devise better means of developing in their students the motivation to learn the Igbo language and improve on their achievement. The researcher observed that due to the present way the Igbo language lessons are delivered in these junior secondary schools, the students are not motivated to learn the language. They have limited opportunity to be exposed and make use of their ICT skills which they acquired in both formal (during the computer instruction class) and informal (from peers, friends, siblings, etc.) domains for the Igbo language. They are only exposed to the teacher-centred instructional method instead of the student-centred method and, therefore, are not motivated to learn Igbo which also led to their poor achievement in Igbo.

To fill these learning gaps, the researcher considers it appropriate to explore the use of technology- enhanced approach to learning which would expose students to the realization of different classroom activities and improve on their motivation to learn,as well as their achievement in Igbo using the CALL package.

In this approach, the teacher analyzes the situation by identifying the students' areas of language needs, and or difficulties that need remediation. The teacher states the objectives of the topics in the syllabuses bearing in mind the needs, interests, age and capability of the learners. These objectives should be achievable and based on the students' identified learning need, difficulty or interests. The teacher should also consider students' cognitive and intellectual development. The objectives could be reviewed from time to time to evaluate progress, assess and review what is yet to be done to attain the objectives.

Then, ICT tools should be adopted and integrated into the classroom in the form of computer assisted intervention packages or other Computer Assisted Language Learning applications packages. The student, then, further utilizes the developed software intervention package and other CALL tools and materials for language learning. The student is in the centre of the action as well as the key player in this learning process, but the teacher's role is still primordial as it is he/she who facilitates all the learning/activities.

This framework posits that the students' achievement and improved motivation to learn the Igbo language outcomes are realized by a complex interaction of constructivism learning environment activities (Listening; Speaking; Reading; Writing; Reacting; etc.) and connectivism technology enhanced environment. The interactivity between the student and the developed CALL intervention package (i.e. ILLMuPac) resulted in a joint engagement which promotes dynamic and friendly learning environment that enhances students' achievement in Igbo and improved motivation to learn the language after the evaluation.

The researcher highlighted the contribution of CALL to the Igbo language learning with a view to exploring and inspiring the Igbo language teachers and students to use it for learning purposes. Again, the importance of empowering students to take their learning in their own hands through the use of different tasks and activities within the technology enhanced classroom environment was demonstrated.

The Igbo Language Teachers' ICT Skills Competency Level.

The findings revealed that the Igbo language teachers exhibit poor ICT skills competence to be used during the teaching and learning of the Igbo language. From the result, it can be deduced that a majority of the teachers reported a poor ICT skills competence.

The Igbo language teachers reported a low competency level in the following computer skills and activities: starting and logging off a computer; using basic computer terminology-booting, navigating, etc; keyboard skills and handling the mouse; checking, composing and sending emails; inserting and ejecting CDs in the computer; creating, bolding and italicizing text; the use of videos, audio players sound for movies and music; use of cameras on the computer for snapshots and recording sounds; use of ICT software on personal computers for teaching; saving documents on flash drive, CD and other external storage desktop; creating and naming folders on the computer desktop; and the use of computer simulations to make abstract topic easy as presented in table 11. This negates the stipulated UNESCO (2008) ICT Competency Standards for teachers.

The researcher therefore, considers it beneficial for the Igbo language teachers to keep abreast of the technologically driven era by acquiring the necessary ICT skills. This knowledge would help them not only to re-design their instructional materials and activities in line with the students' skills to enhance learning. Rather, it would also help them to plan for further training for themselves as teachers in the era where the students have advanced in their computer skills. It would also help them to make the right choices for appropriate learning software or to propose such to their students. Gerard and Rogegiers (1993 cited in Anyika, 2011) cautioned that:

> teachers should be careful that the learning situations they propose to students really enhance learning by varying the activities, designing the activities in such a way that students succeed in executing them, as success-satisfaction of having resolved a complex situation – is an important driving force to learning (p.144)

This means that the Igbo language teachers should endeavour to give students learning activities or tasks that are within their level of capabilities, needs and interests to execute successfully on their own as this motivates and facilitates learning.

4.3 Implications for Language Teaching and Learning

Following from this study, these implications for teaching and learning are presented:

1. Before introducing the CALL into the Igbo classroom, the Igbo language learners should be provided with the necessary and required skills to use the computers properly and comfortably. This will ensure that learners will be freed from computer anxiety and negative attitudes towards computers.
2. CALL should be integrated into the traditional Igbo classrooms where the teacher is also available as a facilitator for further assistance and questions so that students are not deprived of human contact. The Igbo language teachers would also benefit from the use of the Computer Assisted Language Learning.
3. The treatment package ILLMuPac developed purposely as an intervention strategy for this study has been validated and found to be effective. This interactive multimedia package (ILLMuPac) could be used to teach secondary school students who are learning Igbo.
4. CALL can be of great help in the teaching and learning of Igbo especially when repetitive as well as communicative practices are needed.
5. The training and re-training of the Igbo language teachers would be of great assistance.
6. The limitation of the study to Upper Basic II schools located within Lagos State may make the findings not generalizable.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Preamble

This chapter undertakes a summary of the findings of this study. Some conclusions are drawn while some useful suggestions for further studies are proffered.

5.1 Summary

The study assessed the effect of the Computer Assisted Language Learning (CALL) and its impact on the motivation and achievement of junior secondary students (JSS) in Igbo in Lagos State, Nigeria.

The focus of the study was on the development and utilization of (CALL) intervention package to enhance instructional modes of the Igbo language at JSS level, the effect of the CALL intervention package on experimental subjects' motivation to learn Igbo, the effect of the CALL intervention package on students' reading and writing in Igbo, the prevalent instructional strategies in teaching Igbo at the junior secondary school (JSS) level, the level of ICT competence of the Igbo language teachers, and the interaction effect of the CALL intervention package and the students' language of the home on the students' achievement in Igbo. Furthermore, the study developed a conceptual framework as an interaction of the elements of activities that would take place during the teaching and learning of the Igbo language.

Qualitative and quantitative research procedures were adopted for obtaining relevant data within the population.

This population comprised all the students enrolled for the 2013/2014 academic session, studying the Igbo language; students in all the government-owned secondary schools in the Education District IV in Lagos State, Nigeria. Twenty Igbo language teachers were also selected

for the study. All the participants were involved in the survey. The participants for the study were made up of two hundred and forty nine (249) junior secondary school students both male and female drawn from three schools in the government-owned secondary schools in Education District IV in Lagos State, Nigeria.

One hundred and twelve (112) students from three intact classrooms were assigned to the control group while another one hundred and thirty seven (137) students from another three intact classrooms were assigned to the experimental group, bringing the total sample size to two hundred and forty- nine (249) students. All Igbo language teachers in the Education District IV constituted teacher respondents to the teacher survey instruments.

Two categories of instruments were used and they are response and stimulus instruments.

Response instruments include:

Pre – and Post - Igbo Language Achievement Test (ILAT) was used to gather information on students' academic achievements in Igbo language. The ILAT contained a 40-item assessment test adapted and partly modified from the past questions of junior secondary school certificate examination (JSSCE) relevant to the selected topics. It served as pre-test for ascertaining the initial achievement level of the participants in the two groups while the post-test was used for assessing the effect of the CALL intervention package i.e. Igbo Language Learning Multimedia Package (ILLMuPac) on the achievement in Igbo of the experimental group.

Questionnaire for Students' Motivation to learn the Igbo Language was developed to elicit information from both the control and the experimental groups on the students' motivation to learn the Igbo language within the traditional instructional strategies;

Questionnaire for Teacher's ICT Skills Competence was used to determine the computer skills competence of the Igbo language teachers. It enabled the teachers to self-rate their levels of ICT knowledge and skills. It consisted of two main sections: Part A (demographic information of the teacher) while Part B sought their opinions on their ICT skills competence. The ways in which they use ICT and the extent to which they promote the use of ICT in students' learning

A Questionnaire structured for the experimental group was also used for students' assessment of the ILLMuPac on the Igbo language after the intervention .This was a 22-item researcher – designed instrument for pupils' opinion concerning: the appropriateness of the developed intervention package in the learning of the Igbo language; its impact on their reading and writing skills in Igbo; and its effect on their motivation to learn Igbo language using ILLMuPac.

A stimulus instrument comprising the developed Igbo Language Learning Multimedia Package (ILLMuPac) which is the treatment administered to the experimental group was developed. It is made up of lessons developed from Igbo topics selected from Lagos State Unified Schemes of Work on the Igbo language for Junior Secondary Schools, but was developed as a software for the teaching and learning of Igbo. When developing the software instructional package for the study, students' interests and needs, the instructional objectives as well as the interface design were taken into consideration.

Some treatment sessions were held with the experimental subjects of the quasi-experimental group who were exposed to the content and methods as stated in the ILLMuPac intervention package. An analysis of their performance in the Igbo language achievement tests reflected a differential learning gain on their part as opposed to the control group subjects who received tutorial in their classroom with the use of recommended textbook, and through traditional teacher-centredness.

Other relevant data obtained from both student and teacher respondents were analyzed using some statistical measures such as percentages, frequencies, the t-tests, ANCOVA. The results so generated led to the conclusion that ILLMuPac indeed makes a difference in the achievement of students in the Igbo language.

The following is the major finding emanating from the study which is relevant to the research questions raised.

- There is a significant improvement in the achievement of students in the Igbo language as a result of the CALL intervention package.

Other findings which relate to the hypotheses formulated for the study are:

- There is a significant effect of the CALL intervention package on students' motivation to learn the Igbo language.
- There is also a significant improvement in the Igbo language skills achievement (reading and writing skills) of the students as a result of the CALL intervention package.
- There is no significant interaction effect of the CALL intervention package and students' language of the home on their achievement in the Igbo language.
- The conventional method and the individualized method of instruction ranked high as the prevalent instructional strategies adopted by the Igbo language teachers in teaching the Igbo language in the junior secondary schools. This confirms the use of the teacher-centered method as against the student- centered method of instruction as stipulated in the National Policy on Education.
- A majority of the teachers reported a poor level of ICT skills competence.

The study has established that most of the Igbo language teachers in all the junior secondary schools studied did not possess competences and skills to handle basic computer software programmes like keyboard skills and handling the mouse; checking, composing and sending emails; inserting and ejecting CDs in computers; creating, bolding and italicizing text; use of videos, audio players sound for movies and music; use of ICT software on personal computers for teaching; saving documents on flash drives, CD and other external storage devices; and creating and naming folders on the computer desktop. This explains why many of them use the traditional teacher centred instructional method instead of the student – centred method during the Igbo language classroom instruction. This trend must be discouraged.

Most reviewed literature also concentrated mainly on the instructional strategies that favour the use of CALL in the language classroom so as to promote the student-centred instructional method. It was noted that the prevalent old traditional teacher – centred, face – to face, method of instruction is not conducive for the successful practice of CALL. They make students passive recipients, do not foster creativity and the desire to learn, do not involve students' participation in classroom process among others. Also, highlighted was the use of more effective and innovative teaching strategies and techniques that could yield more positive results in students learning if utilized appropriately in the classroom. These included simulation techniques, the use of role plays, tasks, etc.

However, the researcher believed that the Igbo language teachers need to sit back and put heads together and look into their prevalent instructional methods and strategies with the intention of adopting more recent approaches, strategies and techniques that are more student-centred and compatible with CALL and those that put students in real situations of language use; are more constructivist in nature thus involving the active participation of the students in the classroom

instead of sticking to the old teacher- centred methods. This is necessary because for language students to become satisfied with a lesson, it is required to produce a stress-free classroom, and develop technology – enhanced lesson delivery, with different tasks and activities that promote active learning and improved achievement. Some of the technology – enhanced approaches include the project method, the ICT integrated approach, the assignment method, the field trip method, etc.

5.1 Contributions to Knowledge

- A CALL intervention software package named 'the Igbo Language Learning Multimedia Package' (ILLMuPac) to enhance teaching and learning of the Igbo language among junior secondary school students was developed and tested successfully.
- A basic framework that comprises activities of interaction for the use of the Computer Assisted Language Learning for the Igbo classroom instruction in the junior secondary schools in Lagos State, Nigeria was provided by the study.
- The study ascertained the effects of the CALL intervention package on the achievement of JSS students in Igbo and has proven that a significant differential learning gain and improved achievement in favour of the experimental group emanated.
- The CALL intervention software package would improve teachers' classroom preparation and lesson delivery in Igbo for effective teaching and learning.
- Adapted the CALL to the teaching and learning of a living language.

5.2 Recommendations

In view of the fact that the Computer Assisted Language Learning is relatively new to students especially in the teaching and learning of the Igbo language; this section presents some important recommendations for stakeholders, such as school administrators, policy- makers and regulatory

bodies, school managers and owners / proprietors, students and teachers of the Igbo language and relevant agencies.

- The developed and successfully tested CALL courseware package ie the Igbo Language Learning Multimedia Package (ILLMuPac) is recommended for teaching and learning of the Igbo language in the junior secondary schools.
- The teaching of the Igbo language should be geared towards the acquisition of appropriate knowledge and skills that are related to the students' immediate environment.
- For improved Igbo language instruction at the JSS level, more teachers should be trained in the use of the CALL application packages for classroom instruction through workshops, seminars and induction courses. Relevant textbooks and laboratories should be developed and put in place to achieve this.
- The Igbo language teachers are also advised to vary their methods, techniques and ways of teaching according to their students' needs, capabilities, and interests.
- The Igbo language teachers need intensive training in computer application that can assist them to prepare and produce electronic teaching and instructional materials for the Igbo learners. They should collaborate with the Language Development Centre of the Nigerian Educational Research and Development Centre (NERDC) to produce the CALL materials suitable for Nigerian students. This would offer them the opportunity of using the computerized method more intensively and more frequently.
- Students' attention is already captured through the use of CALL. Therefore, the application of computers in our classroom setting will go a long way to improve motivation and academic achievement in the students learning Igbo.

- The use and integration of basic and related computer applications such as Micosoft Power Point, Video, CD/DVD, and graphics are recommended for teaching various aspects of the Igbo language in JSS II curriculum.
- Teacher training institutions should make computer literacy a compulsory requirement for language teachers especially in Nigerian languages.
- Workshops should be organized by Igbo Studies Association of Nigeria (ISAN) to improve on lesson delivery on Igbo in the Nigerian secondary schools. This would help to maintain the status and standard of the Igbo language teaching, learning and practice.
- Curriculum designers should incorporate the use of computer application packages as a veritable means of teaching the Igbo in Nigerian schools and colleges.
- Governments should set up even at education district levels, language centres equipped with relevant materials for the teaching and learning of the Igbo language.

5.3 Conclusions

Based on the findings of the study it was concluded that:

- The development and utilization of the (ILLMuPac) as a CALL intervention courseware package has provided viable alternative to insufficient human resources for the Igbo language teaching and learning. Hence, course content and module exercises could be developed into similar courseware materials as supplement to face-to-face interaction and for Igbo students' self- study.
- Computer Assisted Language Learning significantly enhanced the achievement of the learners (students) because those JSS II students taught using the ILLMuPac performed significantly better than those taught using the conventional method.

- Teaching strategies from reviewed literatures have the potential to make or mar students' performance. Student - centred approach which involves active learning is found to improve students' performance in the Igbo language than the conventional teacher-centred approach. Thus, teaching and learning of Igbo with the CALL intervention package motivated students to the learning of, and improved achievement in the Igbo language.

5.4 Limitation of the Study

The study did not examine other alternative means like the internet for delivering the course content. Secondly, the curriculum content was limited to five Igbo topics of the entire Igbo curriculum for the Junior Secondary School II students.

The Computer was limited to the presentation of curriculum content only as the two groups were exposed to pre-test and post test using the paper and pencil approach.

Despite all these limitations, the findings are significant particularly in the use of the Computer Assisted Language Learning in the Nigerian school system for the Igbo language teaching and learning.

5.5 Suggestions for Further Research

Based on the findings of the study, it is suggested that further studies involving the use of CALL are recommended in the following areas since technology brings new applications and methods into language teaching and learning.

- The study could be replicated to other urban states in the country using more students and teachers.

- Further study can be on the assessment of the impact of the CALL on students' Igbo vocabulary learning and usage.
- The study was conducted for 13 weeks. This duration could be extended to one academic year. This would relieve the pressure of time and the other responsibilities of the participants.
- The participants in the study were not selected randomly. A purposive sampling technique was used. It is suggested that the study be repeated with different sampling techniques but with similar samples.

In conclusion, it is hoped that the recommendations and the information obtained from this study would be put into consideration by all the stakeholders of Igbo to improve on the prevalent practices in teaching and learning of the language in Nigerian secondary schools and even globally.This would also help to maintain the status of Igbo as a major Nigerian language, as well as make it attractive as a medium of communication even on a global scale.This study opens a new field for research in the teaching and learning of the Igbo language using computer as a tool to enhance its delivery.

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APPENDICES

APPENDIX I

QUESTIONNAIRE FOR THE STUDY

QUESTIONNAIRE FOR IGBO LANGUAGE TEACHERS

Dear Respondent,

The questionnaire is designed to seek your opinion. The information may be useful to Igbo language teachers in using computer assisted language learning for students' improved performance in Igbo language. Therefore, your cooperation is solicited in answering the questions in each section of the questionnaire truthfully. All information supplied will be treated with utmost confidentiality. Thank you for your cooperation.

Part 1

Questionnaire for Teachers' Basic Computer Skills Assessment
This part of the questionnaire is designed to seek your level of competence in the use of computer and related ICT tools. Your responses would be treated with utmost confidentiality. Thank you for your participation.

a) Complete the blank spaces as they apply to you
b) *Tick the appropriate boxes provided against the answers that appeal to you*.

SECTION A
Personal Data. Please tick in in the appropriate box

1. Highest qualification……..

2. Teaching Experience: a) 0-5 yrs ☐ 6-10 yrs ☐ 11-15 yrs (d) 16 yrs and above ☐

3. Class taught: a) JSS I ☐ (b) JSS 2 (c) JSS 3 ☐

4. Pre-Service exposure to computer
a) I took courses in computer during teacher training
b) I went to computer school while on training
c) I taught myself how to use computer
d) I was not exposed to computer at all while training

5.Gender (a) Male ☐ (b) Female ☐

SECTION B

Kindly rate your level of competence in the under listed computer activities.

S/N		**1**	**2**	**3**	**4**
		High	**Average**	**Low**	**Not at all**
1	Starting, booting and logging off a computer.				
2	Keyboarding skills and handling the mouse.				
3	Creating and editing text.				
4	Indenting the beginning of a paragraph.				
5	Understanding of basic computer terminologies.				
6	Checking, composing and sending e-mail.				
7	Inserting and ejecting CDs.				
8	Use of videos, audio players, sounds for movies and music.				
9	Use of cameras on the computer for taking pictures.				
10	Saving document on diskette, flash drive or any external storage devices.				
11	Creating email account				
12	Use of PowerPoint.				
13	Use of Excel.				
14	Use of computer simulations (videos & animations) to make abstract topic easy				
15	Typing and formatting of documents using word processing application.				
16	Educational use of ICT to support classroom instruction e.g. lesson planning, email, face book etc.				
17	Creating and naming a folder on your computer desktop.				
18	Downloading and attaching a document from an email message				

Part 2

Teachers' Igbo Language Instructional Strategies Questionnaire

This part of the questionnaire is designed to obtain information on your Igbo teaching strategies. All information supplied will be treated with utmost confidentiality. Thank you for your cooperation.

SECTION C

Teaching strategies/ methods employed during Igbo language instruction

Instruction: Tick one of these options in response to the following statements

		(4) Never	**(3) Seldom**	**(2) Usually**	**(1) Always**
1	I give them group work during Igbo lesson				
2	I use dialogue to encourage communication in Igbo				
3	I use games to encourage communication in Igbo				
4	I use poem and drama to encourage practice of Igbo in class				
5	I use loud reading in promoting reading in Igbo				
6	I use controlled writing to develop students' writing in Igbo				

Tick one of these options in response to the following statements using the scale below:

Often= 4; Sometimes= 3; Rarely= 2; Never=1

S/N	**ITEMS**	**(4) Often**	**(3) Sometimes**	**(2) Rarely**	**(1) Never**
7	I use audio recordings of Igbo programmes, music, dialogues, discussions, events etc. to teach Igbo in the class				
8	I teach Igbo by engaging the students in field trips/ excursions activities				
9	I use drama and role play to teach Igbo				
10	I teach Igbo by engaging the students to work individually at their own pace on the work given to them				
11	I always use pictures when teaching Igbo language				
12	I discuss each topic with the students during the Igbo language lesson				
13	I ask students questions in the class during when teaching Igbo language				
14	I sometimes tell the student to find out information about some topics during the Igbo class.				

APPENDIX II

Questionnaire for Students Learning the Igbo Language
Student's Basic ICT Skills Competence

Dear Respondent,

This part of the questionnaire is designed to seek your level of competence in the use of computer and related ICT tools. Your responses would be treated with utmost confidentiality. Thank you for your participation.

SECTION A Personal Data. Please tick ☐ in the appropriate box

1. Gender (a) Male ☐ (b) Female ☐

2. Age 9-12 yrs ☐ (b) 13—15 yrs ☐ c) 16 yrs and above ☐

3 When did you start using a computer?
   (a) From home ☐
   (b) From primary school. ☐
   (c) From secondary school ☐
   (d) I cannot use computer ☐

4. Do you have a personal computer?
   a) Yes ☐ No ☐

5 How many hours a day do you use computer? (a) Less than 1 hour ☐ (b) 1-2hours ☐

   (c) More than2 hours ☐ (d) 0 hours ☐

6. How did you learn computer skills?

(a) In a formal classroom ☐ (b) By personal trial and error ☐

   (c) Through class mate or friend ☐ (d) Other Please specify _____

SECTION B

Rating Questions. Please rate the following items using the scale below. Rate your level of competence in the under listed computer activities

S/N		**1**	**2**	**3**	**4**
		High	**Average**	**Low**	**Not at all**
1	Starting, and booting and logging off a computer of a computer				
2	Understanding of basic computer terminology like navigation, booting etc.				
3	Keyboarding skills and handling the mouse				

4	Checking, composing and sending e-mail				
5	Inserting and ejecting CDs				
6	Creating, bolding and italicizing text				
7	Use of videos, audio players sounds for movies and music				
8	Use of cameras on the computer for snapshots and recording sounds				
9	Use of ICT tools like computer in the classroom during learning				
10	Saving document on diskette, flash drive or any external storage devices				
11	Creating and naming a folder on your computer desktop				
12	Use of computer simulations (videos & animations) to make abstract topic easy				

SECTION C

STUDENT'S MOTIVATION TO LEARN THE IGBO INVENTORY

This section is designed to obtain information on your motivation to learn Igbo language as well as teaching strategies used by your teacher during instruction.

Instruction: Please tick ( ) the appropriate box or column

Keys: SA – Strongly Agree, A – Agree, SD – Strongly Disagreed, D – Disagree

S/N	ITEMS	SA	A	D	SD
1	I feel highly motivated by my Igbo teacher's encouragement				
2	I am always afraid of making mistakes in reading and writing Igbo				
3	If I had a choice, Igbo would not be part of my study programme				
4	Igbo is a very difficult language to learn				
5	Questions asked during the Igbo class are difficult				
6	I feel too shy to speak in class even when I know the answers				
7	I feel great about Igbo because I always come tops in Igbo exams and assignments				
8	I do not like being given homework in Igbo				
9	The language proficiency of my Igbo teacher influences my attitude towards the language.				
10	The positive attitude of my Igbo teacher towards Igbo influences my motivation to learn the language.				

11	I like to be identified by my Igbo name in school				
12	Listening to stories /folktales narrated in Igbo motivates me to learn Igbo				
13	I read Igbo novels on my own				
14	I prefer to watch Igbo movies on African Magic				
15	I often look forward to visiting my village to enable me interact more in Igbo.				
16	I prefer to use Igbo language at home				
17	Igbo language seems archaic in the 21st century				
18	Igbo is not important to my career aspiration				
19	Meeting and listening to Igbo people who speak Igbo language motivates me to learn the language				
20	Learning Igbo language is an enjoyable experience				
SECTION D **Teaching techniques used for instructions in the Igbo language classroom**					
1	My teacher always uses charts when teaching Igbo language				
2	My teacher discusses each topic with us during the Igbo language lesson				
3	My teacher asks us questions in the class during teaching and learning of Igbo language				
4	My teacher sometimes engages us in reading out some passages from the text				
5	My teacher sometimes tells us to find out information about some topics in the Igbo class				
6	We learn Igbo in the class with audio recordings of Igbo programmes, music, dialogues, discussions, events etc.				
7	My teacher sometimes engages us in language games activities				
8	We learn Igbo by engaging in field trips/ excursions activities				
9	We learn Igbo by engaging in drama				
10	Sometimes we learn Igbo through pronunciation practice				
11	My teacher sometimes engages us in singing activities				
12	Sometimes we are engaged in reading a comprehension/ summary passage				

APPENDIX III

Students' Igbo Language Learning Multimedia Package Assessment Questionnaire

This questionnaire is designed to obtain information that may be useful to the researcher in researching on computer assisted language learning in Igbo language. Therefore your cooperation is solicited in answering the questions in each section of the questionnaire truthfully. All information supplied will be treated with utmost confidence. Thanks for your cooperation.

c) *Complete the blank spaces as they apply to you*
d) *Tick the appropriate boxes provided against the answers that appeal to you using the following keys: A=Strongly Agree; A=Agree=Disagree; SD=Strongly Disagree*.

Age..... Sex..... Class.....

S/N	ITEMS	SA	A	D	SD
The ILLMuPac and Motivation to learn the Igbo language.					
1	The intervention package motivates me to learn Igbo language.				
2	It makes me to always participate actively in the class				
3	It makes the learning of Igbo language simpler than before				
4	It makes Igbo language learning more enjoyable				
5	Activities in the package are exciting and make me like to study Igbo language.				
6	The package helps to change my negative perceptions towards Igbo language				
The ILLMuPac and Development of Language Skills in Igbo.					
7	The package helped me to improve on my Igbo listening skill				
8	Natural speed and accents in the package helped me to improve my reading skill in Igbo.				
9	Activities in ILLMuPac lessons helped me to improve on my writing skill in Igbo.				
The ILLMu Package and its interactivity					
10	The exercises and feedback section gave me opportunity for practice.				
11	The contents will help me to pass my Igbo language examinations.				
12	The modules are quite enjoyable and made the Igbo language fun to learn				
13	The arrangement of the modules is easy to follow				
14	The pictures are quite attractive and realistic				
15	The exercises and feedback section prepared me for future learning of the Igbo language.				

16	Activities in the package helped me to learn interesting things about the Igbo.				
17	The activities in the computer – assisted class helped me to perform better on the regular class tests and exercises				
18	The ILLMuPac provided me with a better learning experience for learning Igbo.				
19	The activities helped me to improve on my knowledge of Igbo.				
20	I enjoyed working at my own speed using the intervention package.				
21	I cannot use the intervention package on my own				

SECTION C:

22 In what areas do you think the package needs improvement?

1) ……

2) ……..

APPENDIX IVa

Igbo Language Achievement Test (Pre– Test)
Ajụjụ ga – enye aka maka nchọcha.Upper Basic II
Zaa ajuju ndị a (Answer these questions) Oge :Nkeji iri ise

1 Kedu nke abụghị akaraedemede ?

(a) ( ) (b) : (ch) %

2 Olee nke e dere nkeọma n'ahịrịokwu ndi a?

(a) Okoro bi n'Eziagụ

(b) Okoro bi na Eziagụ

(ch) Okoro bi na – Eziagụ

3 Otu n'ime akaraedemede ndị a na – akwụsị ahịrịokwu

(a) Akara ngụdo (b) Akarauhie (ch) Kpọm

4 Otu n'ime ndi a anaghị enyere ndi Igbo aka n'ịgụ oge ụbọchị

(a) Onyinyo (b) Mgbịrigba (ch) Akwa okeọkpa

5 Oria e sii na mmeko nwoke na nwaanyi ebute bu…..

(a) Iba (b) HIV (ch) Otoro

6 Otu nkeji ha ka (a) Otu awa (b) tịmtịm iri na isii (ch) tịmtịm iri isii

7 Ụbọchị ole dị n'izu ndi Igbo?

(a) Anọ (b) Ise (ch) Isii

8 Uzo mgbochi oria Iba bu…..

(a) Idote gburugburu gi ocha (b)E nwela mmeko nwoke na nwaanyi aghara aghara

(ch) Isa akwukwo nri moobu mkpuru osisi tupu e rie ha

9 10.35 pm n'asụsụ Igbo pụtara_____

(a)Nkeji iri atọ na ise ka ọ fọrọ ka elekere iri na otu nke mgbede kụọ

(b) Nkeji iri abụọ na ise ka ọ fọrọ ka elekere iri na otu nke ụtụtụ kụọ

(ch) Nkeji iri abụọ na ise ka ọ fọrọ ka elekere iri na otu nke mgbede kụọ

10 Elekere isii na ọkara nke ụtụtụ n'olu bekee bụ_____

(a) 6.05 am (b) 6.30 pm (ch) 6.30 am

11 Ụbọchị ole ka otoro na –eji egosiputa n'ahu onye nwere ya?

(a) Awa olenaole ruo abali ano

(b) Abali iri ruo izuuka ato (ch) O na –amalite ozigbo ozigbo

12 Ihe mbụ e ji anabata onyeọbịa n'ala Igbo bụ

(a) Ọjị (b) Mmiri (ch) Oche

13 Onyeisi ezinaụlọ n'alaIgbo bụ

(a) Nna ezinaụlọ (b) Nne ezinaụlọ (ch) Ada ezinaụlọ

14 Abidịị Igbo dị ……..

(a) iri atọ na isii (b) iri abụọ na asatọ (ch) iri isii na atọ

15 Ụdaume Igbo dị ……

(a) iri na asatọ (b) Asatọ (ch) iri abụọ na isii

16 'Where are you?' pụtara ……. n'Igbo

(a) Ebee ka i si? (b) Ebee ka ị nọ? (ch)Ebee ka i bi?

17 ' Pepper' pụtara ……n'Igbo

(a) Mmanụ (b) Nnu (ch) Ose

18 I want water' pụtara ……..n'Igbo

(a) Achọrọ m ego (b) Achọrọ m mmiri (ch) Achọrọ m nri

19 'Bọla ga – eme ya ' pụtara ……na Bekee

(a) Bọla will eat (b) Bọla will see it (ch) Bọla will do it

20 Olee nke bụ7050 n'ime ndi a?

(a) Puku iri asaa na iri ise (b) Puku asaa na ise (ch) Puku asaa na iri ise

21 Anụ na – eso dinta aga ịchụ nta bụ

(a) Atụrụ (b) Nkịta (ch) Ewu

22 Olee ihe a na – eme tupu a taa ọjị

(a) Ire ọjị (b) Ịgọ ọjị (ch) Izi ọjị

23 Akụkọ ebe a na – akọ ihe gbasarambe bụ akụkọ

(a) Ifo (b) Ndi Ichie (ch) Akụkọneegwu

24 Nzọgbu Nzọgbu enyi mba enyi bụ abụ

(a) Agha (b) Alụmdi (ch) Nwa

25 Olee nke adabaghị etu e si ekwu ya?

(a) Akị na ụkwa (b) Ọkụ na mmiri (ch) Ego na nwa

26 'Ọjị' pụtara ……..na Bekee

(a)Kolanut (b) Coconut (ch) Groundnut

27 ' Mkpọaha' pụtara ……..na Bekee

(a) Adverb (b) Adjective (ch) Noun

28 Gini na – aku ebe a'6:30 a.m

(a) Ọ kụọla elekere isii na ọkara nke ụtụtụ

(b) Ọ kụọla elekere isii na ọkara nke ehihie

(ch) Ọ kụọla elekere isii na ọkara nke anyasi

29 Gwa m gwa m ọnọ n'elu abara ala mba

(a) Anwụ (b) Mmiri (ch) Egbeigwe

30 Gwa m ihe ji ikpere gazuo ubi nna gị

(a) Mma (b) Ọgụ (ch) Mbazụ

31 Olee nke abụghị agụmagụ ọdịnaala

(a) Ikupụta nwa (b) Ejije (ch) Abụ

32 Otu n'ime ndi a bụ uru agụmagụ ọdịnaala bara

(a) Ọ na – ejikọ obodo na ibe ya ọnụ

(b) E ji ya amata aha ụmụ anụmanụ

(ch) Ọ na – enye obiaṅụrị

33 Nke ndi Igbo na – ekele onye na – aga njem bụ

(a) Ị bịala? (b) Ije ọma (ch) Daalụ

34 Otu n'ime ndi a abụghị njirimara ndị Igbo

(a) Asụsụ (b) Ejiji. (ch) Ọchị

35 Mmanụ ndi Igbo ji eri okwu bụ

(a) Agụmagụ (b) Nri (ch) Ilu

36 Ihe izizi nwata na – eme ma o teta ụra bụ

(a) Ịgụ akwụkwọ (b) Ikele ekele ụtụtụ (ch) Isi nri ụtụtụ

37 Onye di ya nwụrụ bụ nwaanyị

(a) Ajadu (b) Omekaome (ch) Akwụla

38 Anụ na – eso dinta aga ịchụ nta bụ

(b) Atụrụ (b) Nkịta (ch) Ewu

Denye mpụtara ọnụọgụgụ ndi a:

39. 1000 ----------

40 6,500 ----------

APPENDIX IV_b

Igbo Language Achievement Test (Post– Test)
Ajụjụ ga – enye aka maka nchọcha.Upper Basic II
Zaa ajuju ndị a (Answer these questions) Oge :Nkeji iri ise

1 Abidịị Igbo dị ……..
(a) iri atọ na isii (b) iri abụọ na asatọ (ch) iri isii na atọ

2 Ụdaume Igbo dị ……
(a) iri na asatọ (b) Asatọ (ch) iri abụọ na isii

3 'Pepper' pụtara ……n'Igbo
(a) Mmanụ (b) Nnu (ch) Ose

4 'I want water' pụtara ……..n'Igbo
(a) Achọrọ m ego (b) Achọrọ m mmiri (ch) Achọrọ m nri

5 'Bọla ga – eme ya ' pụtara ……na Bekee
(a) Bọla will eat (b) Bọla will see it (ch) Bọla will do it

Denye mpụtara ọnụọgụgụ ndi a:

6. 1000 - ----------

7. 6,500 ----------

8. 8, 550 ----------

9. 9,900 ----------

10 'Mkpọaha' pụtara ……..na Bekee
(a) Adverb (b) Adjective (ch) Noun

11 Gini na – akụ ebe a'6:30 a.m
(a) Ọ kụọla elekere isii na ọkara nke ụtụtụ
(b) Ọ kụọla elekere isii na ọkara nke ehihie
(ch) Ọ kụọla elekere isii na ọkara nke anyasi

12 Gwa m gwa m ọnọ n'elu abara ala mba
(b) Anwụ (b) Mmiri (ch) Egbeigwe

13 Gwa m ihe ji ikpere gazuo ubi nna gị
(b)Mma (b) Ọgụ (ch) Mbazụ

14 Olee nke abụghị agụmagụ ọdịnaala
(b) Ikupụta nwa (b) Ejije (ch) Abụ

15 Kedu nke abụghị akaraedemede ?
(b) (<) (b) : (ch) ?

16 Igbo alphabet can also be called ……..
(a) mkpụrụasụsụ (b) mkpụrụedemede (c) mkpụrụokwu (d) mkpụrụụdaokwu

17 Otu n'ime akaraedemede ndị a na – akwụsị ahịrịokwu
(b) Akara ngụdo (b) Akarauhie (ch) Kpọm

18 Otu n'ime ndi a anaghị enyere ndi Igbo aka n'ịgụ oge ụbọchị
(b) Onyinyo (b) Mgbịrigba (ch) Akwa okeọkpa

19 Ụbọchị ole dị n'otu ọnwa ndi Igbo?
(b) Asatọ (b) Iri abụọ (ch) Iri na isii

20 Ụbọchị ole dị n'izu ndi Igbo?
(b) Anọ (b) Ise (ch) Isii

21 Elekere isii na ọkara nke ụtụtụ n'olu bekee bụ_____
(b) 6.05 am (b) 6.30 pm (ch) 6.30 am

22 Onyeisi ezinaụlọ n'ala Igbo bụ
(b) Nna ezinaụlọ (b) Nne ezinaụlọ (ch) Ada ezinaụlọ

23 Nke ndi Igbo na – ekele onye na – aga njem bụ
(a) Ị bịala? (b) Ije ọma (ch) Daalụ

24 Mmanụ ndi Igbo ji eri okwu bụ
(b) Agụmagụ (b) Nri (ch) Ilu

25 Ihe izizi nwata na – eme ma o teta ụra bụ
(b) Ịgụ akwụkwọ (b) Ikele ekele ụtụtụ (ch) Isi nri ụtụtụ

Nkega nke abuo

Daada : Damilola biko nodu ala
Damilola : Maka gini?
Daada : Ka m nụ ihe onye nkụzi na – akụzi.
Lekan : Hei! Obi dị m anụrị taa
Kazim : Ọ bụ makana Ị bịara akwụkwọ n'oge ?
Lekan : Mba! Ana m abịa akwụkwọ n'oge mgbe niile
Kazim : Kedu ihe iji enwe aṅụrị?
Lekan : Emere m nkeọma n'ule Igbo anyị mere ụnyaahụ.
Damilola : Lekan, Ị bụ mbe?
Lekan : Biko abụghị m mbe, mbe bụ onye aghụghọ
Daada : Unu enyezina m mkpọtu ebe a. Achọrọ m ịgụ akwụkwọ

Answer these questions

26. Ederede a bụ ederede ----------

a) mkparịtaụka b) leta c) akọmakọ d) egereakọọ

27. Mmadụ ole nọ n'ederede a dị ----------

a) ise b) iri c) anọ d) iri na abụọ

28. Mkparịtaụka a dị n'etiti----------

a) ụmụakwụkwọ b) Ndi nkụzi c) Onye isi d) Nne na Nna

29. 'Mbe' pụtara onye ----------

a) ọjọọ b) aghụghọ c) nzuzu d) ọma

30. Ebe a nọrọ mee mkparịtaụka a kwesịrị ịbụ na --------

a) ụlọọgwụ b) ụlọụka c) klaasị d) ụlọobibi

Translate the following

39 Udo gara ebe ahụ taa

Udo…….

a) has gone there (b) is going there (c) went there today

(d) will be there today

40

Igbo	**Bekee**
Nkịta	
Ewu	
	Sheep
	Elephant

1) Write out those who make nuclear and extended family;

2) identify different roles of the nuclear family members;

3) listen to the computer and underline the names of the family members pronounced on the screen; and

4) do the given exercises Students

APPENDIX V

SCRIPT FOR THE STUDY

LESỊN 1 Ezinaụlọ (Family)
At the end of the lesson, students are expected to:
have learnt about marriage ceremony in their last year

N'ebe a anyị ga – amata ndị mebere ezinaụlọ.(**Here we will identify those that make up family**). E nwere udiri ezinaulo abuo:ezinaulo obere na nke obosara. (**There are two types of family- Nuclear and extended family**).Na mbụ,lee eserese ndi a mebere ezinaụlọ obere**.(First, look at the picture of those that make up nuclear family).**
Ada – **Daughter**
Ọkpar**a – Son**
Nne**– Mother**
Nna **- Father**

Ndi mebere ezinaụlọ obosara gụnyere nna, nne, ụmụaka ha na ikwunaibe ha. (**Those that make up extended family are mother,father,their children and their relatives)**

Ọrụ ndi mebere ezinaụlọ (Duties of family members)
Nna bụ onyeisi ezinaulọ.(**father is the head of the family**).
Orụ ya gụnyere ihe ndị a:(**His duties entail**:) ịhụ na ezinụlọ na – eriju afọ(**providing food for the family**),
ịkwụ ụgwọ akwụkwọ ụmụaka;(**paying the children's school fees**),
ịzụrụ ha akwa(**buying clothings for them**);
ịkụziri ha ndi bụ ikwu na ibe ha (**acquainting them with their relations**);

ịkpọ ụmụaka ya eje nzukọ obodo na nke ụmụnna(**taking the children to their town and kindred meetings**).
Ọrụ nne n'ezinaụlọ gụnyere ndị a (**Mother's roles in the family entail**)
ilekọta ụmụaka anya(**taking proper care of the children**),
isi nri(**cooking food**);
ịkụziri ụmụaka ya ndi nwaanyị etu e si edota ụlọ ọcha(**teaching girl child how to keep the home clean**);
etu e si esi nri(**how to cook food**).
Nne ga na – ahụkwa na ụmụka ya na – adị ọcha mgbe niile**.(Mother will also make sure that the children are nice and neat always**)

Ihe Omume(Activity)
Gere ma kaa ihe n'okpuru nke dabara n'ihe ị nụrụ:(**Listen and underline the correct word you heard**)
1 Nne Nte: Nke : Mbe (**mother**)
2 Nna, Nwa, Mkpa Nkwa (**Father**)
3 Ada, Aka Akwa Ata (**Daughter**)
4 Ọkpara, Nwoke, Ọkara Ọbara(**Son**)

(Activity 2)
Kanye akarauhie na nke dabara adaba**(match the right answers)**
1 Olee ndi mebere ezinaụlọ obere bụ ……..inyere nne na nna ha aka

2 Onye bụ onyeisi ezinaụlọ bụ …… nna, nne, ụmụaka ha na ikwunaibe ha

3 Ọrụ dịiri nna n'ezinaụlọ bụ……. ilekọta ụmụaka anya

4 Ọrụ nne n'ezinaụlọ bụ……. ịhụ na ezinụlọ na – eriju afọ

5 Ọru ụmụaka na – arụ n'ezinaulọ bụ ….. Nna

6 Ndi mebere ezinaụlọ obosara bụ …… Nne,nna,ụmụaka

Lesịn 2 Ọnụọgụgụ (Numerals/Numbering system):Otu Puku ruo Narị Puku (1,000 – 100,000)

At the end of the lessons, students should be able to:
i) Count numbers from one thousand to five thousand;
ii) pronounce numbers written out on the screen;
iii) read out sentences made with numbers;
iv) use numbers/numerals to make sentences;
iv) write the given exercises .

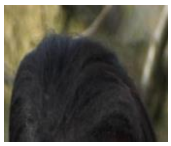
Students have been taught about numbering system in their first year. They have learnt numerals from one (1) to one thousand (1000) in their JSS 1 class. They will be taught numerals from one thousand (1,000) to one million (1,000,000).

1,000 – otu puku (one thousand)
1,347 – otu puku,narị atọ na asatọ (one thousand, three hundred and forty seven).
5,000 – puku ise (five thousand)
8,073 – puku asatọ,iri asaa na atọ
10,000 – puku iri (ten thousand)
11,000 – puku iri na otu puku (eleven thousand)
12,465 – puku iri na puku abụọ,narị anọ,iri isii na ise (twelve thousand, four hundred and sixty five)
20,000 – puku iri abụọ (twenty thousand)
23,000 – puku iri abụọ na puku atọ (twenty three thousand)
30,012 – puku iri atọ, iri na abụọ(thirty thousand and twelve)
50,000 – puku iri ise (fifty thousand)
68,378 – puku iri isii na puku asatọ,narị atọ,iri asaa na asatọ (sixty eight thousand,three hundred and seventy eight)
90,000 – puku iri itoolu (ninety thousand)
90,140 – puku iri itoolu, otu narị na iri anọ (ninety thousand,one hundred and forty)
100,000 – puku narị (one hundred thousand)

Ihe omume (Activity)
Kwupụta (say) these numbers in Igbo) ọnụọgụgụ ndi a n'Igbo
6,400 b) 5,700 ch) 28,000
Gụpụta ọnụọgụgụ ndi a ma depụta ha na fịgọ (read out these numbers and write them out in figures)
a) Puku asatọ,narị anọ, iri ise na isii (eight thousand, four hundred and fifty – six)
b) Puku iri isii,otu puku,narị asaa, iri atọ na asatọ (sixty – one thousand seven hundred and thirty thirty eight)
c) Puku iri na puku asaa (seventeen thousand)

Lesịn 3 Akụkụ Ahụ Mmadụ (Parts of human body)

Face - Ihu 

Hair - Ntutu isi 

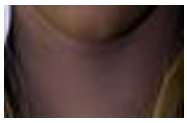
Head - Isi

Mouth - Ọnụ

Teeth - Eze

Tongue - Ire

Neck - Olu



Nose - Imi

Eye - Anya

Belly - Afọ 

Chest - Obi 

Ear - Ntị 

Hand - Aka 

Finger - Mkpịsịaka 

Toe - Mkpịsịụkwụ 

Ihe omume (Activity):
Gee ntị n'ihe a ga - agụpụtara gị na kọmputa nke a ga – ejikwa eserese wee gosịpụta nkeọma,metụ aka ma kwuo **(listen to what will be read for you on the computer which should also be described with pictures and then, touch and say what you hear)**

	Nke a bụ (This is…)	**Lee (Look at…)**
1	Nke a bụ aka (This is hand)	1. Lee aka (Look at hand)
2	Nke a bụ anya (This is an eye)	2. Lee anya (Look at eye)
3	Nke a bụ ntị (This is an ear	3. Lee ntị (Look at an ear)
4	Nke a bụ ọnụ (This is a mouth)	4 Lee ọnụ (Look at mouth)
5	Nke a bụ imi (This is nose)	5 Lee imi (Look at nose

(**FOR CONTROL GROUP ONLY**) Onye nkụzi ga – enye ụmụaka ntụziaka ka ha pụta n'ihu klaasị ma gosịpụta akụkụ ahụ ha ndi a***. (the teacher will guide the students to come out in front of the class and identify some parts of their body which were written on the board)***

1 Gosị m aka gị -**show me your hand**
2 Gosị m imi gị - (**show me your nose**)
3 Gosị m eze gị - **show me your teeth**
4 Gosị m mkpịsịaka gị - (**show me your finger**)
5 Gosị m ire gị - (**show me your tongue**).

Lesịn 4 Aha Ụmụanụmanụ dị icheiche (Names of different types of Animals)
The students will listen to the names of different animals being read in the computer and their pictures displayed on the screen. Those animals should be categorized into Wild and tame animals.
At the end of the lesson, students should be able to:
1) Say the names of the animals heard from the audio

2) Look at the pictures and say the names of the animal displayed:

3) Read out from the screen the animals that are wild and those that are tame animals;

4) Write out the names of the animals displayed on the screen

Ihe omume (Activity)

a) Write down three (3) wild and tame animals not mentioned in the lesson;

b) Write out the names of the animals you see on the screen

IGBO	ENGLISH
Ewu	Goat 
Ezi	Pig 
Ebule	Ram 
Ọdụm	Lion 
Enyi	Elephant 

Puusu/Nwamba Cat

Agụ Tiger

Nkịta Dog

Ehi Cow

Atụrụ Sheep

Ịnyịnya Horse 

Ọzọdimgba Gorrila 

Ihe omume(Activity):
Gee ntị n'ihe a ga- agụpụtara gị na kọmputa nke a ga – ejikwa eserese wee gosịpụta nkeọma,kwuo ya **(listen to what will be read for you on the computer and then say what you hear)**
Anụụlọ (Domestic Animals)
Ọmụmaatụ (**Examples**): Ọkụkọ (**fowl**), Ewu (**Goat)**, Nwamba (**cat**), Atụrụ (**sheep**),

Ehi (**cow**), Nkịta (**dog**),

ANỤỌHỊA (Wild Animals)

Ọmụmmaatụ (**Examples**): Ọdụm, Eke, Ele, Enwe, Mbe, Agwọ, Agụ, Ọsa, Ọzọ,

Ihe Omume (Activity)

Lee eserese ndi a kwuokwa ihe ị hụrụ n'eserese ndi ahu.(Watch and say what you see in the pictures on the screen)

Eke, Enwe.Enyi, Ọdụm, Ịnyịnya,Nwamba,Atụrụ,Mbe,Ọkụkọ,Nkịta,Agụ,Ọzọdimgba Ezi,

Lesịn 5 ỊGỤ OGE – (Reading Time)
The main subheadings to be treated under this topic are:
--- Etu e si ama oge mgbe ochie (**Reading time in the olden days**)
---- Oge elekere (**Reading time on the clock**)
--- Mmekọrịta dị n'etiti Awa,Tịmtịm na nkeji (**Relationship between hour, second and minute**)
---- Ịgụ oge izu (**Reading days of the week**)
---- Ịgụ oge afọ (**Reading months of the year**)

Etu e si ama oge mgbe ochie (Reading time in the olden days)
Tupu ndi Igbo amata ihe bụ elekere, ha nwere ụzọ dị icheiche a si ama oge n'agbanyeghị na etiwaghị sleeti.Ọ bụghị mmadụ kụziiri ha nke a kama ọ bụ site n'ọgụgụisi nke Chineke nyere ha.Ndi Bekee kewara ụbọchị ụzọ abụọ iji nyere ha aka gụọ oge. Site n'etiti abalị ruo n'etiti ụbọchị ka ha kpọrọ **a.m (ante meridian).**Site n'etiti ụbọchị ruo n'etiti abalị bụrụ **p.m (post meridiam*)***
(Before civilization, there are different avenues of reading time.The olden days people used their knowledge to concept the times of the day.The white men divided the day into ante – meridian and post – meridian)
Kedu etu ndi Igbo si amata na e sila n'otu oge banye n'oge nke ọzọ? Ihe ndi a bụ ihe na – enyere ha aka (How did the Igbo people know the time of the day in the olden days)
(i) Akwa okeọkpa nakwa nnụnụ ụfọdụ***(Crying of cock and some types of birds)***

(ii)

Okeọkpa kwaa nke mbụ a mara na a banyela n'ezigbo ụzọ ụtụtụ (**If the cock crows for the first time, it signifies dawn,)**. Ọ kwaa nke ugboro abụọ a mara na chi ọbụbọ atụnyela n'ụkwụ.**(but If it cries the second time it signifies early morning. This shows that daybreak is at hand)**

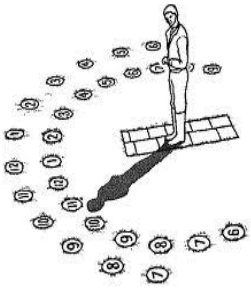
(iii) Ebe anyanwụ kwụ ***(Positions of sun in the sky)***

Anyanwụ bọlite ndị mmadụ esi n'ụra biliwe. A na – akpọ oge ahụ ụtụtụ.Ebe anyanwụ kwụ na – egosị etu onyinyo mmadụ ga – aha. Anyanwụ na – agbagote onyinyo ana – epelata mpe. A hụdewe onyinyo, ya bụ mgbe o zoro n'okpuru ụkwụ mmadụ a mara na a banyela etiti ụbọchị. Mgbe ahụ I lee anya n'anyanwụ ọ kwụrụ n'elu isi mmadụ.

(iv) Ogo onyinyo mmadụ ***(Different positions of human shadow)***

Onyinyo mechaa pụtakwa a mara na etiti ụbọchị agaala.Mgbe ahụ a sị na otu chi akarịala ibe ya.Anyanwụ ga – anọrọzi na mpaghara ọdịda ya ebe onyinya ga – echezi ihu na mpaghara ọwụwa ya.Site mgbe ahụ gawa,onyinyo ga na – etozi ogologo tutu anyanwụ alakpuo, e wee banyezie abalị.

When the sun is rising, the human shadow will becoming smaller until it gets into the feet, then the early Igbo people would know that it is midday. When the sun goes to settle down, the human begins to grow bigger until the sun sets. Then, it becomes night



Oge Elekere(Reading time on the clock)

Elekere so n'ezigbo ihe ndi anyị si n'aka ndi Bekee nweta.***(Relationship between minute hand,hour hand and seconds hands of a clock)***

I lee anya n'elekere a, ị ga – ahụ na o bu ọnụọgụgụ malite n'otu ruo n'iri na abụọ. O nwekwara aka ato nke na – agagharị okirikiri okirikiri akwụsị akwụsị.Aha aka ndi a dịka I siri hụ ha n'eserese ahụ bụ:

(i) aka nkeji (nke ogologo)**(minute hand)**
(ii) aka tịmtịm (nke zarịzarị)**(seconds hand)**
(iii) aka awa (nke mkpụmkpụ)(**hour hand)**
Ọ na – ewe aka nkeji nkeji iri isii iji gaa elekere okirikiri otu ugboro.Ihe nke a pụtara bụ na oghere dị n'etiti otu ọnụọgụ na ibe ya bụ nkeji ise(60/12 =5).Ya bụ ,bido n'iri na abụọ ruo n'otu pụtara nkeji ise, bido n'otu ruo na abụọ pụtakwara nkeji ise, bido n'abụo ruo n'atọ bụrụkwa nkeji ise dgz.

(iii) Tịmtịm iri isii ha ka otu nkeji**.(sixty seconds make one minute)**
(iv) Nkeji iri isii ha ka otu awa**.(sixty minutes make one hour)**
(v) Awa iri abụọ na anọ mere otu ụbọchị**.(twenty four hours make one day)**

Ihe na –akụ n'olu Bekee (What is the time in English) Nkọwa ya n'Igbo (Responses in Igbo)

12 midnight…….elekere iri na abụọ nke etiti abalị
12 noon……elekere iri na abụọ nke ehihie
3 a.m……elekere atọ n'ụzọ ụtụtụ
3 p.m…….elekere atọ n'ehihie
5 a.m…….elekere ise n'ụtụtụ
5 p.m……..elekere ise na mgbede
12.55 p.m…… nkeji ise fọrọ ka elekere mbụ nke ehihie kụọ
1.30.a.m……..o jirila ọkara gaa elekere mbụ nke ụzọ ụtụtụ
3.16 p.m……o jirila nkeji iri na ise gaa elekere atọ nke ehihie
Half past six…….ọkara agaala elekere isii

Oge Izu (Time of the week)

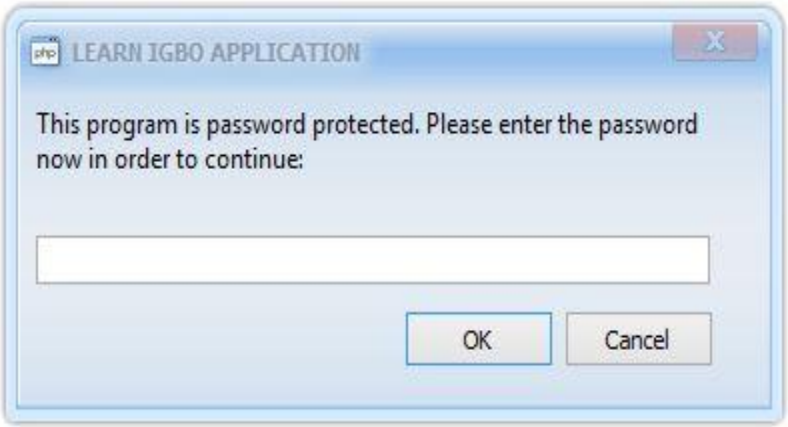
Izu Igbo bụ mkpụrụ ụbọchị anọ.**(Week in Igbo is four market days).**Dịka mkpụrụ ụbọchị asaa dị n'izu ndị Bekee siri nwee aha n'otu n'otu,(**just as seven days make the English week and have their different names,)** izu ndi Igbo nwekwara aha nke ha (**Igbo weekdays have their own names too**). Aha izu ndi Igbo bụ Eke,Orie,Afọ na Nkwọ**.(The names of Igbo four market days are Eke,Orie,Afọ and Nkwọ)**

S/N	Izu Ndi Bekee	Izu Ndi Igbo
1	Sọnde(Ụka)	Eke
2	Mọnde	Orie(Oye)
3	Tuuzdee	Afọ
4	Wenezdee	Nkwọ
5	Tọọzdee	
6	Fraịdee	
7	Satọdee	

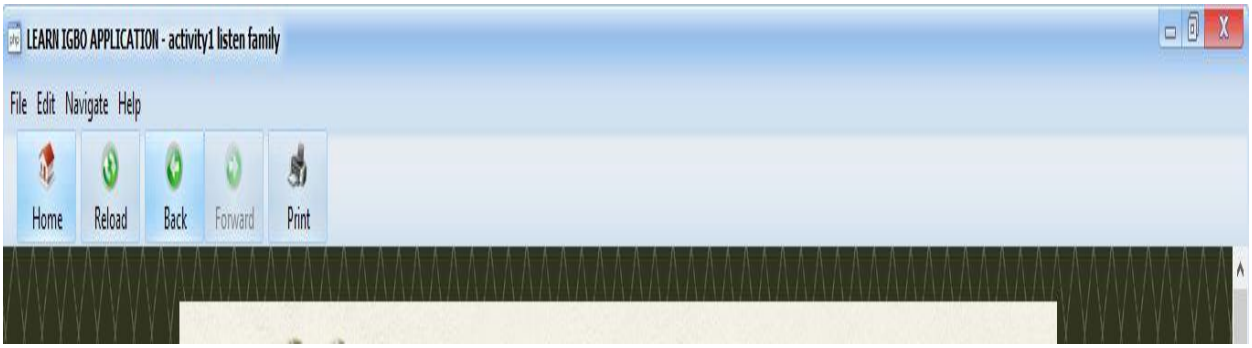
Mkpụrụ ụbọchị anọ …….Otu izu
Mkpụrụ ụbọchị asatọ……Izu abụọ
Mkpụrụ ụbọchị iri abụọ na asatọ ……Izu asaa maọbụ otu ọnwa

APPENDIX VI

SELECTED FRAMES FROM INTERACTIVE MULTIMEDIA PACKAGE

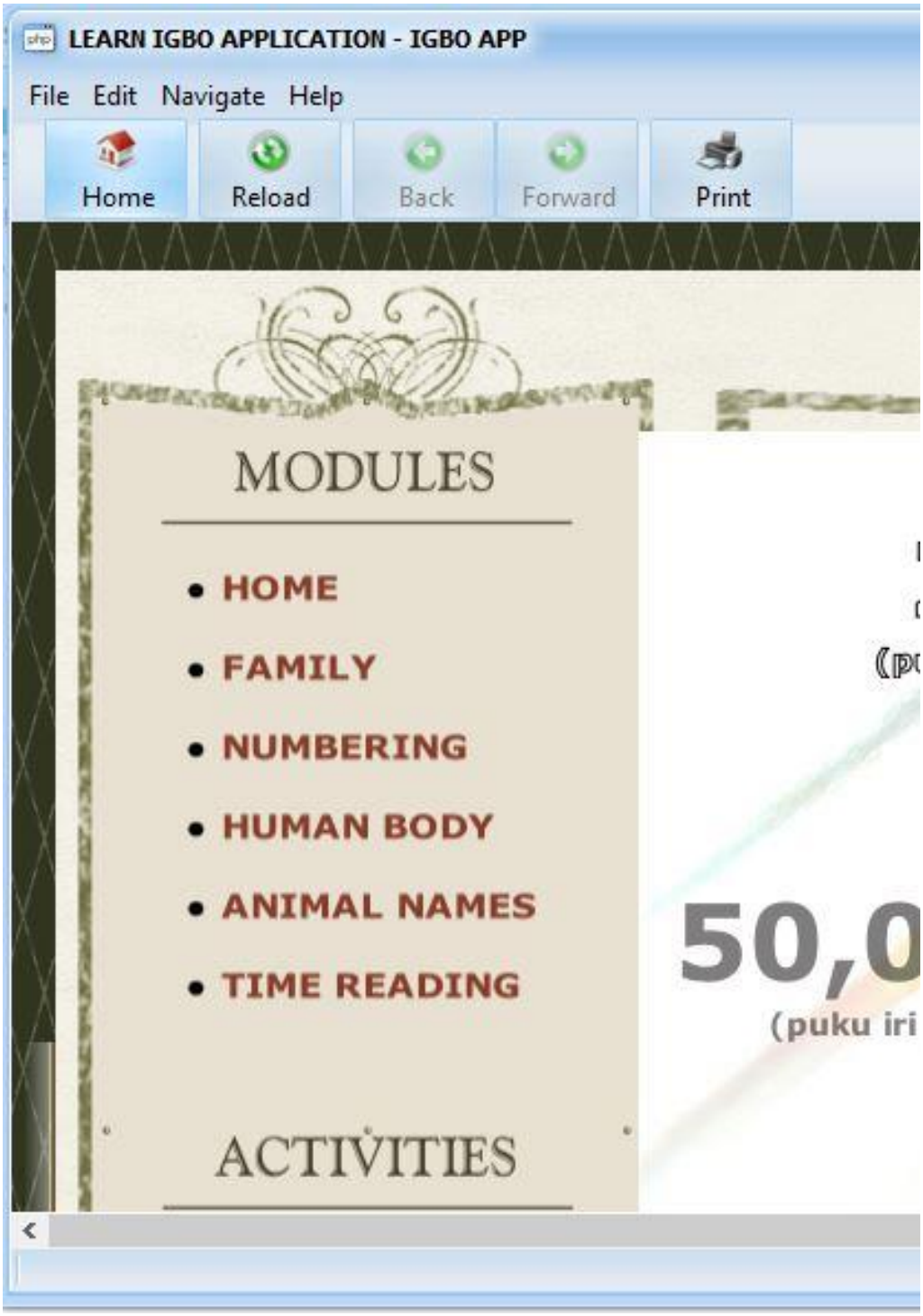


Screenshot 1: Login interface

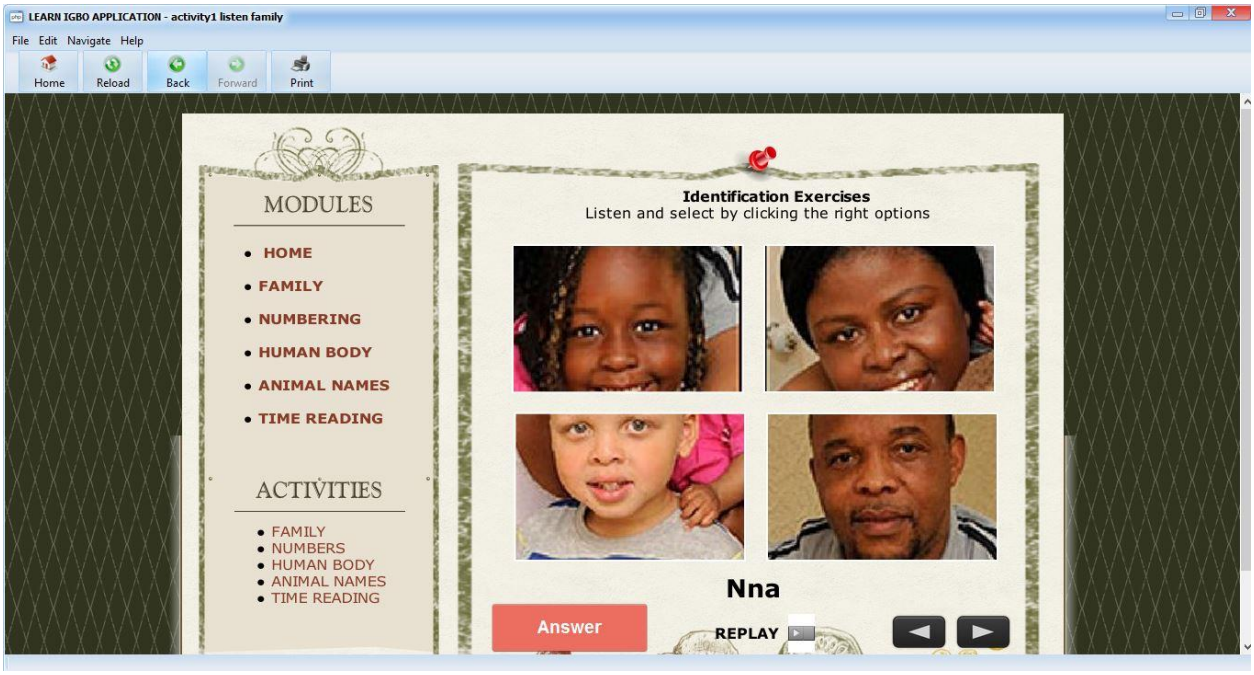


Screenshot 2 Select activity interface

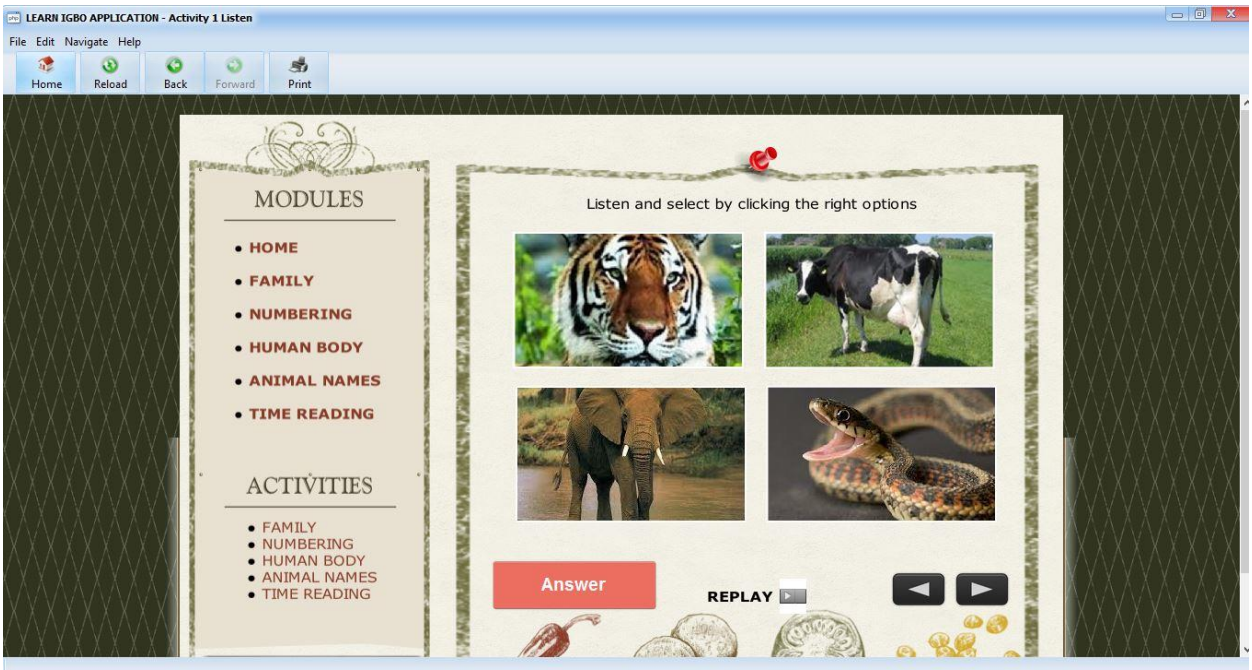
Screenshot 3a Learning activity interface



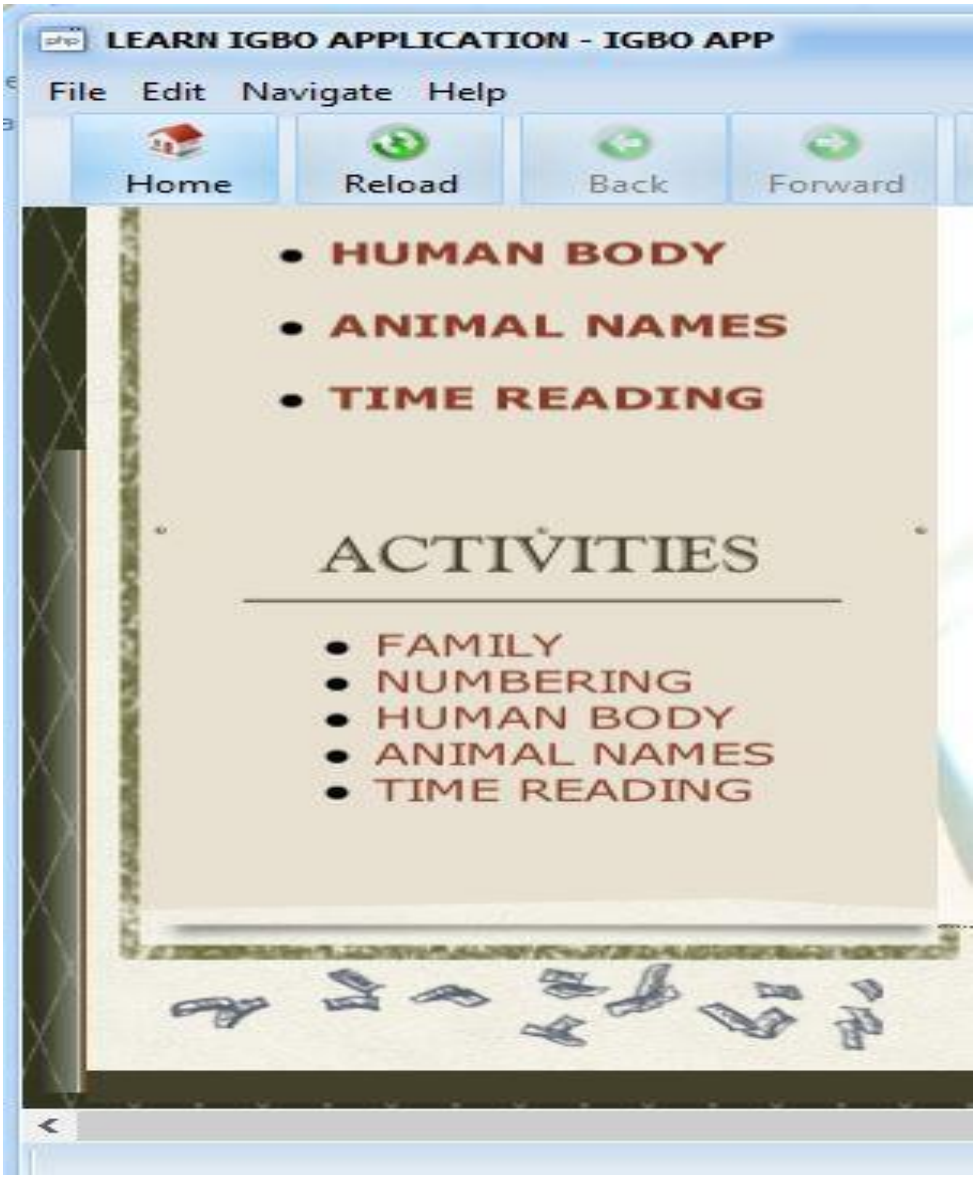
Screenshot 3b Learning activity interface



Screenshot 4a Test activity interface

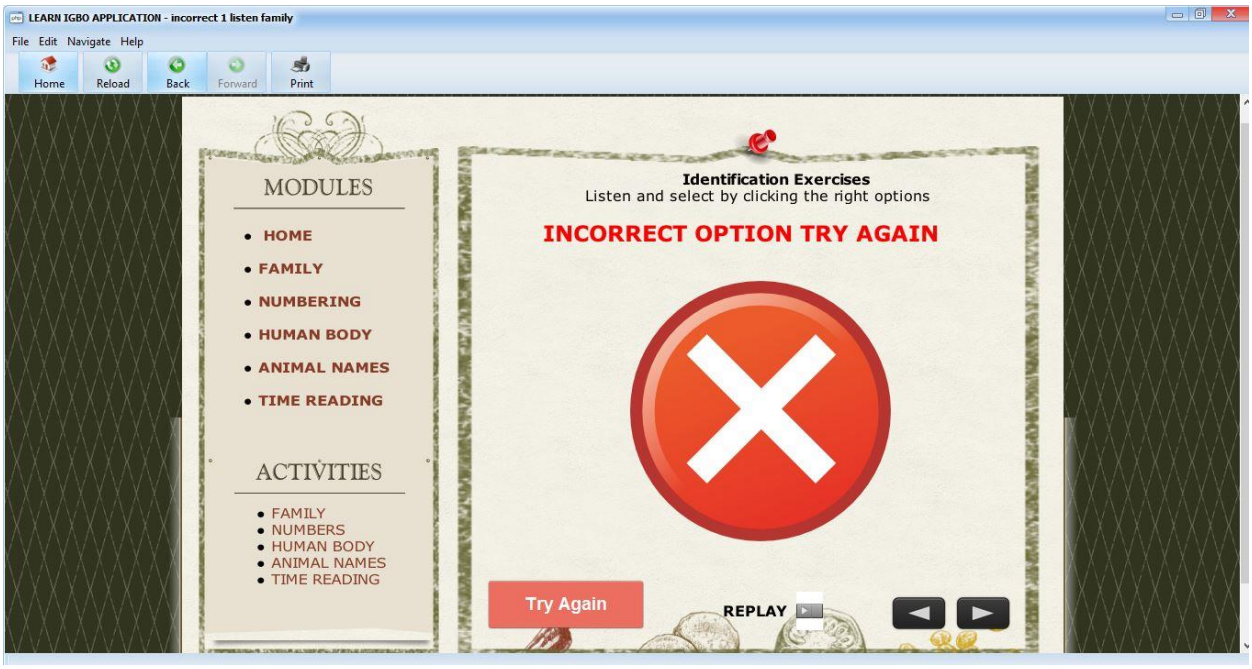


Screenshot 4b Test activity interface



Screenshot 4c Test activity interface

Screenshot 5a Correction



Screenshot 5b Correction / feedback interface