

**UTILIZATION OF INFORMATION COMMUNICATION TECHNOLOGY(ICT) TOOLS  
IN THE TEACHING AND LEARNING OF ECONOMICS IN SENIOR SECONDARY  
SCHOOLS IN EZEAGU LOCAL GOVERNMENT AREA, ENUGU, ENUGU STATE.**

**BY**

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FACULTY OF EDUCATION,  
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ENUGU, NIGERIA**

**JUNE, 2026**

**TITLE PAGE**

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**A PROJECT PROPOSAL SUBMITTED TO THE DEPARMENT OF SOCIAL SCIENCES  
EDUCATION, FACULTY OF EDUCATION,  
GODFREY OKOYE UNIVERSITY,  
ENUGU, NIGERIA**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF  
BACHELOR'S DEGREE IN EDUCATION  
(ECONOMICS EDUCATION)**

**SUPERVISOR: DR. MARK UGWOKE**

**JUNE, 2026**

**APPROVAL**

THIS PROJECT HAS BEEN APPROVED FOR THE DEPARTMENT OF **SOCIAL SCIENCES EDUCATION**, FACULTY OF EDUCATION, GODFREY OKOYE UNIVERSITY ENUGU, NIGERIA

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**CERTIFICATION**

**I, ONYEJIHE CHIOMA QUEENDALINE** an undergraduate student in the Department of **Social Sciences Education** and with Reg. No. **GOU/U24/EED/111** have satisfactorily completed the requirements for course and research work for the degree of (B.Sc.Ed) Economics. The work embodied in this project is original and has not been submitted in part or full for any other Degree of this or any other University.

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**Signature/Date**

### **DEDICATION**

This research work is dedicated solely to Mr. Egwu, Odera Stephen and Mr, Okenwa Raphael Mbah for their encouragement, guidance and financial support throughout my journey of educational of pursuit.

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## ABSTRACT

*This study examined the utilization of Information and Communication Technology (ICT) tools in the teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State, Nigeria. Five research questions guided the study. A descriptive survey research design was adopted for the study. The population of the study comprised approximately 260,000 Economics teachers and senior secondary school students in public secondary schools in Ezeagu Local Government Area. A sample size of 200 respondents was selected using simple random sampling technique. A structured questionnaire was used as the instrument for data collection, and the data collected were analysed using mean and standard deviation. The findings of the study revealed that although some ICT tools such as computers and mobile devices were available in schools, their utilization in the teaching and learning of Economics was generally low. The study also found that teachers' ICT competence was moderate, while major challenges affecting ICT utilization included inadequate ICT facilities, poor internet connectivity, lack of regular training, and insufficient funding. The study recommended that government and school administrators provide adequate ICT facilities, organize regular ICT training programs for teachers, and implement supportive policies that encourage the integration of ICT in secondary schools*

## CHAPTER ONE

### INTRODUCTION

#### **Background to the Study**

Education is universally acknowledged as one of the most important instruments for national development because it equips individuals with the knowledge, skills, values, and competencies required for productive living and sustainable socio-economic growth. It plays a fundamental role in developing human capital by preparing individuals to become innovative, self-reliant, and capable of contributing meaningfully to the development of their societies. According to the World Bank (2023), investment in quality education enhances productivity, reduces poverty, promotes innovation, and strengthens the economic competitiveness of nations. Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021) maintained that education remains the most effective means of empowering individuals, promoting social inclusion, and achieving sustainable development across the globe. Consequently, educational systems worldwide have continued to embrace innovative instructional approaches capable of preparing learners for the demands of an increasingly digital and knowledge-driven society.

In Nigeria, secondary education occupies a strategic position within the national educational system because it serves as the bridge between basic and tertiary education while equipping learners with the knowledge and competencies required for higher education and productive citizenship. The Federal Republic of Nigeria (2014) emphasizes that secondary education should prepare students for useful living through the acquisition of relevant knowledge, practical skills, scientific orientation, technological competence, and entrepreneurial abilities. Achieving these

objectives requires teachers to move beyond conventional teacher-centred instructional approaches and adopt learner-centred strategies that encourage critical thinking, creativity, collaboration, and problem-solving. This necessity has become even more pronounced with the increasing digitalization of education across the world.

Among the subjects offered at the senior secondary school level, Economics occupies a unique position because of its direct relevance to individual decision-making and national development. Economics is a social science concerned with how individuals, households, firms, and governments allocate scarce resources to satisfy unlimited human wants. According to Lipsey and Chrystal (2020), Economics enables learners to understand the principles governing production, consumption, distribution, exchange, and resource allocation within an economy. Through the study of Economics, students develop analytical, quantitative, and critical thinking skills that enable them to evaluate economic issues objectively, make informed financial decisions, and contribute effectively to socio-economic development. Consequently, Economics education has become indispensable in preparing students to understand contemporary economic challenges such as inflation, unemployment, poverty, globalization, entrepreneurship, and sustainable economic growth.

Despite its importance, Economics is widely regarded as one of the subjects that presents considerable learning difficulties to students because many of its concepts are abstract, analytical, and quantitative in nature. Topics such as national income accounting, fiscal policy, monetary policy, elasticity, market equilibrium, international trade, and macroeconomic modelling require students to interpret graphs, statistical tables, charts, mathematical computations, and economic models. According to the Organisation for Economic Co-operation

and Development (OECD, 2023), meaningful learning occurs when instructional strategies encourage learners to interact actively with content, visualize abstract ideas, and apply knowledge to real-life situations. Consequently, traditional lecture methods alone are often insufficient for teaching complex Economics concepts effectively, thereby necessitating the integration of innovative instructional technologies that enhance students' understanding and participation in classroom activities. This position is consistent with the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006), which emphasizes that effective teaching occurs when teachers integrate technological knowledge, pedagogical knowledge, and subject content knowledge appropriately during instruction.

One of the most significant developments influencing contemporary education is the emergence and widespread adoption of Information and Communication Technology (ICT). Information and Communication Technology refers to a broad range of digital technologies, electronic devices, communication systems, software applications, and internet-based resources used for creating, processing, storing, retrieving, transmitting, and sharing information for educational and other developmental purposes. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023), ICT has transformed education by expanding access to learning resources, promoting collaboration, improving instructional delivery, and supporting learners' acquisition of digital competencies required in the twenty-first century. Likewise, the OECD (2023) observed that digital technologies have shifted classroom practices from teacher-dominated instruction towards more interactive, learner-centred, and collaborative learning environments that improve students' engagement and academic performance.

The concept of utilization is central to the successful integration of ICT into educational practice. Utilization refers to the effective, consistent, and purposeful application of available resources in achieving predetermined objectives. Within the educational context, ICT utilization involves the extent to which teachers and students appropriately employ technological facilities such as computers, projectors, interactive whiteboards, internet resources, educational software, multimedia applications, and digital communication platforms during lesson preparation, classroom instruction, assessment, and independent learning. The World Bank (2023) noted that the educational benefits of ICT are realized not merely through the availability of technological facilities but through their effective integration into teaching and learning processes. Similarly, UNESCO (2023) emphasized that successful ICT utilization depends on teachers' digital competence, institutional support, adequate infrastructure, reliable electricity, internet connectivity, and continuous professional development.

The increasing utilization of ICT has fundamentally transformed teaching and learning across virtually all school subjects, including Economics. Modern digital technologies enable teachers to simplify complex concepts through multimedia presentations, simulations, animations, educational videos, virtual learning environments, online assessments, and interactive classroom activities. According to the OECD (2023), technology-supported instruction improves learners' critical thinking, collaboration, creativity, communication, and problem-solving skills when appropriately integrated into classroom practice. In the teaching of Economics, ICT facilitates the presentation of statistical data, graphical illustrations, macroeconomic indicators, simulations of market behaviour, and real-time economic information obtained from reputable national and international databases. These technological innovations enable students to connect theoretical

concepts with practical economic realities, thereby improving conceptual understanding and long-term retention of knowledge.

Notwithstanding these enormous benefits, the integration and utilization of ICT in Nigerian secondary schools remain constrained by numerous challenges. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021) observed that although digital technologies possess enormous potential for improving educational quality, many developing countries continue to experience inadequate infrastructure, insufficient funding, poor internet connectivity, unstable electricity supply, and inadequate teacher preparation for technology-enhanced instruction. These challenges are particularly evident in many public secondary schools where the available ICT facilities are either inadequate or underutilized, thereby limiting opportunities for effective technology-supported teaching and learning. Consequently, many Economics teachers continue to rely heavily on conventional instructional approaches despite the increasing complexity of the subject matter and the growing technological expectations of twenty-first-century learners.

The computer is one of the most widely utilized ICT tools in contemporary education because of its versatility in supporting instructional planning, content delivery, assessment, research, and communication. In educational settings, computers provide teachers with opportunities to prepare lesson notes, develop multimedia instructional materials, analyse students' performance, access electronic learning resources, and facilitate collaborative learning. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023), computers have become indispensable instructional tools because they provide learners with immediate access to diverse educational resources while promoting independent learning, critical thinking,

and digital literacy. Similarly, the World Bank (2023) reported that schools that effectively integrate computers into classroom instruction provide students with richer learning experiences than those relying solely on conventional teaching methods.

In the teaching and learning of Economics, computers perform numerous instructional functions that enhance both teachers' effectiveness and students' understanding of economic concepts. Economics is inherently analytical and involves the interpretation of graphs, charts, mathematical models, statistical data, and real-life economic situations. Through computer-assisted instruction, teachers can prepare multimedia presentations, generate graphs illustrating demand and supply relationships, demonstrate changes in macroeconomic indicators, analyse national income data using spreadsheet applications, and present simulations of market behaviour. Computers also enable students to access digital textbooks, electronic journals, online exercises, educational software, and statistical packages that simplify the learning of quantitative aspects of Economics. Mishra and Koehler (2006) argued that when technological tools are integrated with appropriate pedagogical strategies and subject content, classroom instruction becomes more meaningful, interactive, and learner-centred.

Furthermore, computer-assisted instruction promotes individualized learning by allowing students to learn at their own pace while receiving immediate feedback on learning activities. This approach improves students' motivation, participation, and academic achievement because learners become actively involved in constructing knowledge rather than passively receiving information. The Organisation for Economic Co-operation and Development (OECD, 2023) observed that learners who are exposed to appropriate technology-supported instruction generally demonstrate stronger analytical abilities, higher levels of engagement, and improved



problem-solving skills than those taught exclusively through traditional instructional methods. Consequently, effective utilization of computers has become an important strategy for improving the teaching and learning of Economics in secondary schools.

Despite these instructional advantages, the utilization of computers in many Nigerian public secondary schools remains inadequate. Several schools have insufficient computer laboratories, obsolete computer systems, inadequate maintenance culture, poor electricity supply, and limited access to computer-based instructional software. In addition, many teachers have not received adequate professional training required for effective computer integration into classroom instruction. According to the Federal Republic of Nigeria (2014), schools are expected to integrate ICT into instructional delivery; however, infrastructural deficiencies and inadequate funding continue to hinder the realization of this objective in many public schools. The World Bank (2023) similarly identified inadequate digital infrastructure, poor investment in educational technology, and insufficient teacher capacity as major barriers to ICT integration in developing countries.

Another important ICT facility that has transformed classroom instruction is the multimedia projector. A multimedia projector is an electronic device that projects digital images, videos, charts, graphs, presentations, and other visual materials from a computer or similar device onto a larger screen for classroom viewing. Projectors improve instructional delivery by making learning more visual, interactive, and engaging, thereby enabling teachers to explain difficult concepts more effectively. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023), visual instructional technologies significantly enhance students'

attention, motivation, participation, and comprehension because learners are able to observe concepts that would otherwise remain abstract.

The instructional value of projectors is particularly evident in the teaching of Economics where many concepts require graphical representation and visual illustration. Topics such as demand and supply analysis, production possibility curves, market equilibrium, inflation trends, business cycles, national income determination, foreign exchange markets, and international trade can be presented more effectively through multimedia presentations than through verbal explanations alone. Teachers can also use projectors to display real-time economic statistics, charts obtained from the Central Bank of Nigeria, the National Bureau of Statistics, the World Bank, and the International Monetary Fund, thereby exposing students to current economic realities. Such visual presentations enhance students' understanding by connecting theoretical concepts with practical economic events occurring within Nigeria and the global economy.

In addition, projectors facilitate collaborative learning by enabling teachers to present educational videos, documentaries, simulations, classroom quizzes, and case studies that stimulate discussion and critical thinking. The OECD (2023) maintained that technology-enhanced visual learning environments encourage greater classroom interaction and improve students' conceptual understanding across various subject areas. Visual presentation also accommodates different learning styles since students who learn better through observation benefit significantly from multimedia instruction.

Nevertheless, the effective utilization of multimedia projectors in many Nigerian secondary schools remains limited by several institutional and infrastructural challenges. Many public schools either lack multimedia projectors entirely or possess very few units that are rarely used

because of poor maintenance, irregular electricity supply, lack of replacement parts, and inadequate technical support. In some cases, teachers possess limited competence in developing multimedia instructional materials capable of maximizing the instructional benefits of projectors. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021) emphasized that successful technology integration requires not only the provision of ICT facilities but also continuous teacher training, institutional support, adequate funding, and reliable infrastructure. Where these conditions are absent, the educational benefits associated with ICT cannot be fully realized.

The persistence of these challenges suggests that although computers and multimedia projectors possess enormous potential for improving the teaching and learning of Economics, their educational effectiveness depends largely on their availability, accessibility, and effective utilization by teachers and students. Consequently, understanding the extent to which these ICT tools are available and utilized in public senior secondary schools has become essential for improving instructional quality and students' academic outcomes in Economics.

Another important innovation in contemporary classroom instruction is the interactive whiteboard (IWB). The interactive whiteboard is a touch-sensitive digital display system that combines the functions of a traditional chalkboard or whiteboard with those of a computer and multimedia projector. It enables teachers and students to write, draw, manipulate digital objects, annotate presentations, access internet resources, display videos, and interact directly with instructional content in real time. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023), interactive classroom technologies promote learner-centred instruction by encouraging active participation, collaboration, immediate feedback, and

greater engagement during classroom activities. Unlike conventional instructional boards, the interactive whiteboard transforms classroom teaching from passive information delivery to an interactive learning process in which learners become active participants in knowledge construction.

The instructional relevance of interactive whiteboards is particularly evident in the teaching of Economics because many economic concepts require continuous illustration, comparison, and manipulation of graphical and numerical information. Teachers can use interactive whiteboards to demonstrate changes in demand and supply curves, illustrate shifts in production possibility frontiers, explain macroeconomic relationships, analyse market equilibrium, present statistical data, and interpret contemporary economic trends using dynamic visual representations. Such interactive presentations make abstract concepts more concrete and facilitate deeper conceptual understanding among students. Mishra and Koehler (2006) maintained that meaningful learning occurs when technological tools are effectively integrated with appropriate pedagogical approaches and subject content, thereby enhancing learners' engagement and comprehension.

Interactive whiteboards also encourage collaborative learning by allowing students to solve classroom exercises, manipulate graphs, analyse economic data, and participate in problem-solving activities directly on the digital board. This instructional approach enhances learners' confidence, communication skills, creativity, and critical thinking. The Organisation for Economic Co-operation and Development (OECD, 2023) reported that interactive digital technologies improve classroom participation and strengthen students' higher-order thinking skills when teachers possess the competence to integrate them effectively into instructional activities. Consequently, the use of interactive whiteboards provides opportunities for Economics

teachers to create stimulating learning environments that encourage inquiry, discussion, and collaborative knowledge construction.

Despite these educational advantages, the utilization of interactive whiteboards in many Nigerian public secondary schools remains relatively limited. Most schools, particularly those located in rural and semi-urban communities, do not possess interactive whiteboards because of their high acquisition and installation costs. Even where such facilities exist, poor electricity supply, inadequate maintenance, insufficient technical support, and limited teacher competence often constrain their effective utilization. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021), the successful integration of digital technologies into education requires adequate infrastructure, continuous professional development for teachers, institutional commitment, and sustainable funding. In the absence of these conditions, sophisticated instructional technologies such as interactive whiteboards may remain underutilized despite their enormous educational potential.

The persistent poor academic performance of students in Economics further underscores the need for innovative instructional approaches capable of enhancing students' understanding of the subject. The West African Examinations Council (WAEC) Chief Examiners' Reports for the 2021/2022 and 2022/2023 May/June West African Senior School Certificate Examination (WASSCE) indicated that many candidates demonstrated poor understanding of fundamental economic concepts, inability to interpret graphs correctly, inappropriate use of economic terminologies, and weak analytical and evaluative skills in answering examination questions. The reports further observed that many candidates experienced difficulties in applying theoretical knowledge to practical economic situations, resulting in unsatisfactory performance in several

aspects of the examination. These recurring weaknesses suggest that conventional instructional approaches may not be sufficiently promoting meaningful learning in Economics. Consequently, there is an increasing need for the effective utilization of Information and Communication Technology (ICT) tools such as computers, multimedia projectors, interactive whiteboards, and internet resources to improve classroom interaction, simplify abstract concepts, enhance students' analytical skills, and ultimately improve their academic achievement in Economics.

Another indispensable ICT facility for teaching and learning in the twenty-first century is the internet. The internet is a global communication network that connects millions of computers and digital devices, enabling users to access, exchange, and share information almost instantaneously. In education, the internet provides unlimited access to electronic textbooks, scholarly journals, educational videos, virtual classrooms, digital libraries, online assessment platforms, simulations, open educational resources, and collaborative learning environments. According to the World Bank (2023), internet connectivity has fundamentally transformed educational delivery by expanding learners' access to quality instructional materials irrespective of geographical location. Likewise, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023) emphasized that internet-based learning promotes lifelong learning, independent inquiry, collaborative learning, and digital competence, all of which are essential for success in the modern knowledge economy.

Within the context of Economics education, internet resources provide teachers and students with immediate access to current economic information from reputable organizations such as the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), the International Monetary Fund (IMF), the World Bank, the World Trade Organization (WTO), and other

international financial institutions. These online resources enable teachers to enrich classroom instruction with current macroeconomic indicators, inflation statistics, exchange rates, unemployment figures, government budgets, fiscal policy updates, and international trade data. Such real-time information enables students to relate theoretical concepts taught in the classroom to practical economic developments within Nigeria and the global economy, thereby improving conceptual understanding and analytical reasoning.

Internet-based learning also promotes independent research among students by enabling them to access current scholarly publications, participate in online discussions, watch instructional videos, complete online assignments, and collaborate with peers beyond the physical classroom. According to the OECD (2023), learners who effectively utilize digital learning resources demonstrate stronger information literacy, analytical competence, and problem-solving abilities than those who depend exclusively on traditional learning materials. The internet therefore serves as a valuable instructional resource for Economics teachers seeking to expose students to current economic issues and contemporary policy debates.

However, despite these numerous educational benefits, effective internet utilization remains a major challenge in many Nigerian public secondary schools. Many schools experience poor internet connectivity, inadequate broadband infrastructure, high subscription costs, unstable electricity supply, insufficient computer facilities, and limited institutional investment in educational technology. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021) observed that unequal access to digital infrastructure continues to widen educational inequalities between urban and rural schools in many developing countries. Consequently, many teachers are unable to maximize the instructional opportunities provided by

internet technologies, thereby limiting students' exposure to current educational resources and digital learning experiences.

The challenges associated with ICT utilization extend beyond the availability of individual technological facilities. Successful ICT integration depends on several interrelated factors, including adequate funding, effective educational policies, reliable electricity supply, internet accessibility, teachers' digital competence, institutional leadership, technical support, and continuous professional development. The Federal Republic of Nigeria (2014) recognized the importance of integrating ICT into classroom instruction through the National Policy on Education; however, implementation has remained inconsistent because many schools still lack the infrastructural and human capacity required for effective technology integration. Similarly, the World Bank (2023) emphasized that educational investment should focus not only on the provision of ICT equipment but also on strengthening teachers' technological competencies and improving the supporting infrastructure necessary for sustainable digital learning.

Although computers, multimedia projectors, interactive whiteboards, and internet technologies possess enormous potential for improving the teaching and learning of Economics, evidence from many Nigerian public secondary schools suggests that these technologies are either inadequate, inaccessible, or insufficiently utilized. Consequently, many Economics teachers continue to rely predominantly on conventional lecture methods that provide limited opportunities for learner interaction, practical demonstrations, collaborative learning, and the application of technology in solving real-life economic problems. This situation may adversely affect students' interest, classroom participation, conceptual understanding, and overall academic achievement in Economics.



These concerns appear to be more pronounced in many public secondary schools located in rural and semi-urban communities, where infrastructural deficiencies and limited access to ICT facilities remain persistent challenges. It therefore becomes imperative to investigate the extent to which ICT facilities are available and utilized in the teaching and learning of Economics, identify the factors limiting their effective utilization, and generate empirical evidence that could guide educational stakeholders in improving technology integration within secondary schools.

It is against this background that this study investigates the utilization of Information and Communication Technology (ICT) tools for the teaching and learning of Economics in public senior secondary schools in Ezeagu Local Government Area of Enugu State. Specifically, the study seeks to determine the extent to which computers, multimedia projectors, interactive whiteboards, and internet facilities are utilized during Economics instruction, identify the challenges affecting their effective utilization, and provide evidence-based recommendations for enhancing ICT integration in the teaching and learning of Economics in the study area.

### **Statement of the Problem**

The efficient and effective teaching and learning of Economics at the senior secondary school level helps to build students to be an economically literate, analytic and a decision maker. Despite the importance of Economics in the senior secondary school curriculum, students' academic achievement in the subject has continued to generate concern among educators and other stakeholders. The West African Examinations Council (WAEC) Chief Examiners' Reports for the 2021/2022 and 2022/2023 May/June West African Senior School Certificate Examination consistently reported that many candidates demonstrated poor understanding of basic economic concepts, inability to interpret graphs accurately, weak analytical skills, and poor application of

economic principles in answering examination questions. These weaknesses contributed to unsatisfactory performance in the subject. Furthermore, a study by Odom et al. (2024) reported that students' performance in Economics in the Enugu Education Zone has remained below expectation despite government efforts to improve instructional delivery. Similarly, Idika et al. (2018) observed persistent low achievement in Economics among students in public secondary schools in Enugu State and attributed this trend to several school- and teacher-related factors. Based on the researcher's preliminary observations during visits to public senior secondary schools in Ezeagu Local Government Area, similar challenges appear to exist, with many students showing limited interest and relatively low achievement in Economics. This situation underscores the need to investigate whether the utilization of Information and Communication Technology (ICT) tools could enhance the teaching and learning of Economics in the study area.

Various researches identified the traditional and teacher-centered instructional methods that do not give room to learner centred approaches as contributing factors to the problems of academic underachievement, apathy and lack of depth in learners' understanding of Economics concepts among students of Economics at the senior secondary school level.

Given that the role of Information and Communications Technology (ICT) in promoting efficient service delivery is widely acclaimed globally as a transformation agent, evidence has shown that adoption of ICT use in Nigerian senior secondary schools is inadequate. A vast number of Economics teachers lack adequate access to functional computer, projector, interactive white-board and stable Internet Services as needed to effectively engage them and as such limit the ability of such teachers to take advantage of new opportunities that technology has to offer, and even, in situations where these tools exist in a school, such tools are often not put into effective

use due to a lack of necessary ICT-based professional development for teachers, lack of adequate technical support and poor maintenance culture. Furthermore, there is a dearth of research on utilization of Information and Communications technologies (ICT tools) on Economics education in Nigeria, more specifically, the study is unique in exploring the utilization of ICT tools on economics education in Ezeagu L.G.A of Enugu State Nigeria. This lacuna necessitated the study of utilization of ICT tools on the teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State Nigeria.

### **Purpose of the Study**

The main purpose of this study is to investigate on the role play by information communications Technology(ICT) tools in the teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area of Enugu state. The specific objectives are to examine:

1. The availability of ICT tools for teaching and learning of Economics in senior secondary school in Ezeagu local Government Area.
2. The level of ICT Utilization in teaching and learning of Economics in senior secondary school
3. The level of ICT skills possessed by teachers for teaching and learning of Economics in Ezeagu Local Government Area.
4. The challenges affecting ICT utilization in teaching and learning of Economics in secondary school
5. The strategies that can improve ICT utilization in teaching and learning of Economics in senior secondary school

## **Research Questions**

This study was guided by the following research questions:

1. What ICT tools are available for teaching and learning Economics in senior secondary schools in Ezeagu Local Government Area?
2. What is the level of ICT Utilization in teaching and learning of economics in senior secondary school in Ezeagu Local Government Area?
3. To what extent do Economics teachers possess ICT skills for teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area?
4. What challenges affect ICT utilization in teaching and learning of Economics in Senior secondary school in Ezeagu Local Government Area?
5. What strategies can improve ICT utilization in teaching and learning of economics in Secondary School in Ezeagu Local Government Area?

## **Scope of the Study**

The content scope of this study was availability and utilization of information technology (ICT) in teaching and learning of Economics in senior secondary school. The scope of the study is restricted to selected public senior secondary schools in Ezeagu Local government area of Enugu State, while the population scope is confined to senior secondary school two (SS II) students and teachers offering Economics.

## **Significance of the Study**

This study has significant theoretical implications because it contributes to the growing body of literature on the application of Information and Communication Technology (ICT) in the teaching and learning of Economics in secondary schools. Specifically, the study provides empirical evidence on the availability of ICT facilities, the extent of ICT utilization in the teaching and learning of Economics, teachers' ICT competencies and skills, the challenges affecting ICT utilization, and the strategies that can enhance the effective integration of ICT into Economics instruction. In doing so, the findings of this study will provide further empirical support for existing theories that explain technology adoption and technology-supported learning in educational settings.

The study is first anchored on the Technology Acceptance Model (TAM) developed by Davis (1989). The Technology Acceptance Model posits that an individual's acceptance and actual use of a technological innovation are primarily determined by two key factors: perceived usefulness and perceived ease of use. According to the theory, individuals are more likely to adopt and utilize a technology when they believe that it will improve their performance and when they perceive it to be easy to use. Over the years, the Technology Acceptance Model has become one of the most widely applied theoretical frameworks for explaining the adoption and utilization of technological innovations in educational institutions and other organizational settings.

The relevance of the Technology Acceptance Model to the present study lies in its ability to explain the factors influencing the utilization of ICT tools in the teaching and learning of Economics. The availability of ICT facilities alone may not guarantee their effective utilization unless Economics teachers perceive such technologies as useful for improving instructional

delivery and sufficiently easy to operate. Similarly, teachers' ICT competencies, institutional support, and access to functional ICT facilities are likely to influence their willingness to integrate computers, multimedia projectors, interactive whiteboards, and internet resources into classroom instruction. Consequently, the findings of this study will provide empirical evidence on the extent to which these factors influence the utilization of ICT in the teaching and learning of Economics in public senior secondary schools in Ezeagu Local Government Area of Enugu State, thereby extending the applicability of the Technology Acceptance Model within the Nigerian secondary school context.

The study is further underpinned by the Constructivist Learning Theory proposed by Bruner (1966). The theory maintains that learning is an active process through which learners construct new knowledge by relating new experiences to their prior knowledge. Rather than viewing learners as passive recipients of information, Constructivist Learning Theory emphasizes active participation, inquiry, collaboration, discovery learning, and problem-solving. It further argues that meaningful learning occurs when learners actively engage with instructional materials and participate in the learning process under the guidance of the teacher.

The Constructivist Learning Theory is relevant to this study because ICT tools create interactive learning environments that encourage students' active participation during Economics lessons. Through the use of computers, multimedia projectors, interactive whiteboards, and internet resources, students are able to explore economic concepts, analyse real-life economic data, engage in collaborative learning, and develop critical thinking and problem-solving skills. The effective utilization of ICT therefore supports the learner-centred instructional approach advocated by Bruner by enabling students to construct their own understanding of economic

concepts through active engagement rather than passive memorization. Consequently, the findings of this study will provide further evidence on how ICT utilization can facilitate meaningful learning and improve students' understanding of Economics in secondary schools.

Finally, this study draws support from the Cognitive Theory of Multimedia Learning developed by Mayer (2001). The theory postulates that learners understand and retain information more effectively when instructional materials combine verbal explanations with relevant visual representations such as pictures, diagrams, animations, graphs, charts, and videos than when information is presented solely through words. Mayer argues that individuals process information through separate visual and auditory channels, each of which has limited capacity. Consequently, carefully designed multimedia instruction enhances meaningful learning by reducing unnecessary cognitive load and promoting deeper cognitive processing.

The Cognitive Theory of Multimedia Learning provides a strong theoretical foundation for this study because the ICT tools examined—computers, multimedia projectors, interactive whiteboards, and internet resources—are multimedia technologies that facilitate the simultaneous presentation of textual, visual, graphical, audio, and video instructional materials during Economics lessons. Since many Economics concepts involve graphs, statistical tables, models, charts, and quantitative analyses, the integration of multimedia technologies is expected to simplify abstract concepts, improve students' comprehension, stimulate classroom interaction, enhance knowledge retention, and promote higher academic achievement. Therefore, the findings of this study will provide empirical evidence on the extent to which ICT-supported multimedia instruction contributes to improving the teaching and learning of Economics in public senior secondary schools.

Practically, the study findings shall be valuable to: Economics teachers, Students, School administrators, Educational policy makers and Curriculum developers, Government agencies and Future researchers.

For Economics Teachers, the findings of this study will be beneficial by improving their awareness and knowledge of effective strategies for utilizing Information and Communication Technology (ICT) in the teaching and learning of Economics in secondary schools. The findings, which will be accessible through the research report, school and university libraries, institutional repositories, seminars, workshops, conferences, and journal publications arising from the study, will expose Economics teachers to innovative ICT-based instructional techniques that can enhance classroom delivery. Specifically, the study will provide practical insights into the effective use of computers, multimedia projectors, interactive whiteboards, and internet resources for simplifying abstract Economics concepts, promoting students' critical thinking and problem-solving skills, increasing classroom interaction and participation, and creating a more engaging and learner-centred instructional environment. The study will also guide teachers in overcoming challenges associated with ICT integration and encourage them to adopt technology-driven pedagogical practices that can improve students' academic achievement in Economics.

For Students, the findings from the study will have a positive impact on the students through enhanced teaching techniques utilized ICT tools in lesson delivery which can improve students' interest, enhance retention and acquisition of economics concepts and boost the level of participation of students in the classroom. The adoption of the best practices will ensure an interactive session thereby making learning to be more effective and enhance student academic performances in Economics.



For School administrators, the study findings could enhance the effectiveness and efficiency of schools' administrators by appraising the availability and effectiveness of their ICT facilities in the institutions. This will help them to manage and maintain resources properly and ensure the establishment of sound ICT infrastructure facilities necessary for effective service delivery, learning and teaching which may culminate in the increased adoption and sustainable utilization of ICT for learning process and teaching process as will be evidenced by its results and reports.

For Educational Policymakers and Curriculum Developers, findings of this study will assist educational policymakers and government bodies to consider the needs of Economics departments at various levels in terms of ICT in policy making, planning and implementation. Government could use findings to ensure, procure, maintain, upgrade and distribute the ICT resources across the country for adequate coverage of all schools to address potential disparities. It would also enhance to develop more responsive policies towards teachers' ICT professional training, provision, access and support.

For curriculum developers, findings would be relevant for integration of ICT skills into the economics curriculum which could promote interactive learning processes, development of skills for information literacy, digital literacy and also increase students engagement level for effective learning . Government Agencies These stakeholders could incorporate recommendations into action plan. The finding that can make available ICT equipment's in schools across the country and develop sustainable implementation policy could be included in the agency's work plan.

Future Researchers, the finding will serve as baseline research upon which researchers in the field of technology-enhanced learning, educational technology, ICT integration, as well as Economics educators can build future research.

In this regard, the findings would serve as empirical literature in future research activities and could form part of research in a variety of topic areas of learning and economics education. Overall, the findings and recommendations of this study will promote effective integration and utilization of ICT in teaching and learning of economics at the secondary school level thereby improving instructional effectiveness and enhancing student learning in economics.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

The review of related literature was discussed under the following subheadings: conceptual framework, theoretical framework, empirical studies, and the summary of the review of related literature.

#### **Conceptual Framework**

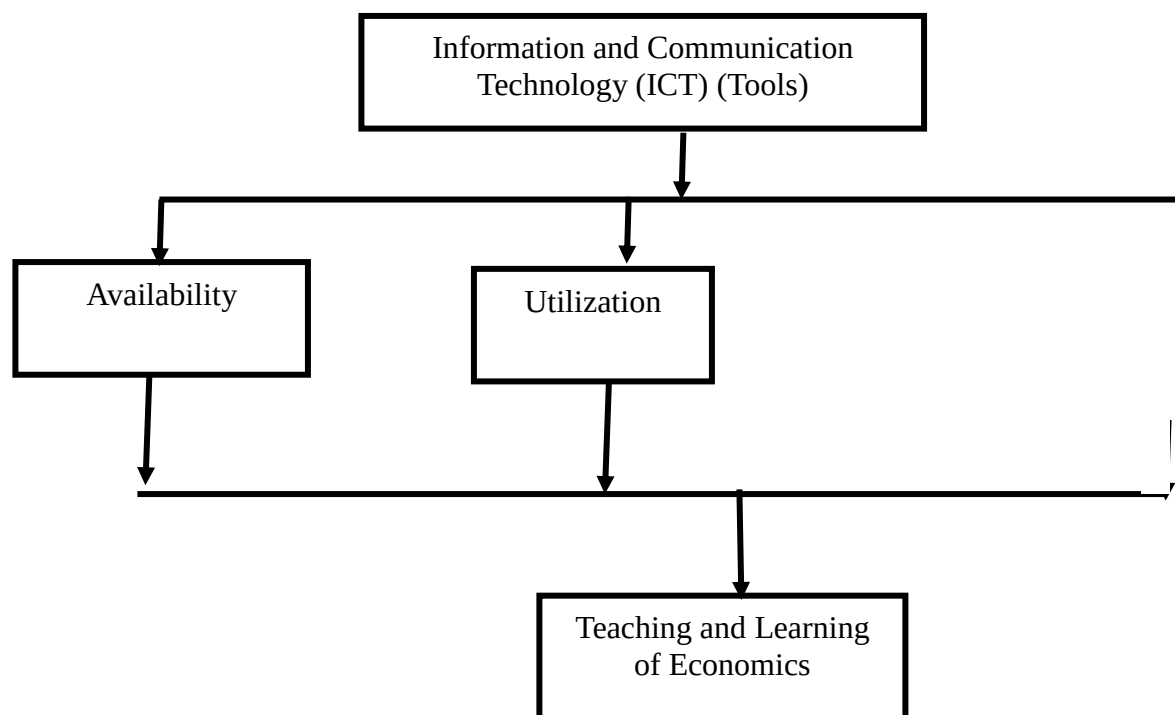
- Information and Communication Technology (ICT)
- Teaching and Learning
- ICT Utilization
- Economics

#### **Theoretical Framework**

- Constructivist Learning Theory (By Bruner, 1966)
- Technology Acceptance Model (TAM) (By Davis, 1989)
- Cognitive Theory of Multimedia Learning (By Mayer, 2001)

#### **Empirical Studies**

#### **Summary of the Review of Related Literature**



**Fig 1: Schematic diagram of conceptual framework drawn by the researcher, 2026**

The conceptual framework shows that Information and Communication Technology (ICT) tools constitute the major independent variable of the study. This variable is represented by two dimensions, namely availability and utilization of ICT tools. Availability refers to the extent to which ICT facilities such as computers, multimedia projectors, interactive whiteboards, and internet facilities are present and accessible in public senior secondary schools. Utilization, on the other hand, refers to the extent to which these available ICT facilities are actually used by Economics teachers and students during classroom instruction and learning activities.

The framework further illustrates that the availability and effective utilization of ICT tools are expected to influence the teaching and learning of Economics, which is the dependent variable.

The effective integration of ICT into Economics instruction is expected to improve lesson delivery, simplify abstract economic concepts through multimedia presentations and simulations, enhance students' participation, promote collaborative and learner-centred instruction, improve critical thinking and problem-solving skills, and ultimately enhance students' understanding and academic achievement in Economics.

Conversely, where ICT facilities are unavailable or available but not effectively utilized, teachers are more likely to rely on traditional lecture methods, which may reduce students' engagement, limit interactive learning opportunities, and negatively affect the effectiveness of teaching and learning Economics.

Therefore, the framework assumes that there is a positive relationship between the availability and utilization of ICT tools and the teaching and learning of Economics in public senior secondary schools. In other words, increased availability and effective utilization of ICT facilities are expected to improve the quality of Economics instruction and learning outcomes among students in Ezeagu Local Government Area of Enugu State.

### **Concept of Information and Communication Technology (ICT)**

Information and Communication Technology (ICT) is one of the most transformative innovations of the twenty-first century, influencing virtually every sector of human endeavour, including education. The concept encompasses a broad range of technological tools, digital devices, communication systems, software applications, and internet-based services used for the creation, processing, storage, retrieval, transmission, and dissemination of information. The rapid

advancement of ICT has transformed traditional methods of communication and knowledge sharing by making information more accessible, interactive, and timely.

The concept of ICT has been defined differently by various scholars and international organizations. According to the **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021)**, Information and Communication Technology refers to the application of digital technologies to improve access to information, enhance teachers' professional competencies, increase students' participation and motivation, and facilitate effective teaching, learning, assessment, and educational management. UNESCO further maintained that ICT supports flexible, inclusive, and learner-centred education by providing opportunities for collaboration, personalized learning, and lifelong learning.

Similarly, the **Organisation for Economic Co-operation and Development (OECD, 2023)** described ICT as digital technologies and communication systems that facilitate the creation, storage, processing, sharing, and utilization of information to improve productivity and innovation across different sectors, including education. According to the OECD, the integration of ICT into classroom instruction enables teachers to create interactive learning environments that promote critical thinking, collaboration, creativity, and problem-solving among learners.

From an educational perspective, ICT extends beyond the mere use of computers to include all technological facilities that facilitate teaching and learning. These technologies include desktop and laptop computers, multimedia projectors, interactive whiteboards, smartphones, tablets, educational software, learning management systems, internet facilities, digital libraries, virtual classrooms, cloud computing technologies, and other online learning platforms. **Afolayan and Adebayo (2022)** viewed ICT as an innovative pedagogical approach that bridges the limitations

associated with traditional methods of instructional delivery by integrating text, audio, images, videos, graphics, animations, and other multimedia resources into classroom instruction. According to these authors, ICT creates opportunities for active learning, collaborative engagement, and improved understanding of difficult concepts through multimedia presentations and interactive instructional strategies.

In the Nigerian educational system, the importance of ICT has continued to increase because of rising student enrolment, expanding curriculum contents, shortage of instructional materials, and the growing demand for digital literacy. Recognizing these realities, the **Federal Ministry of Education (2020)** emphasized the integration of ICT into the Nigerian school curriculum as a strategic means of improving instructional delivery, expanding access to educational resources, and preparing learners for participation in the digital economy. The policy further encourages schools to integrate technology into classroom instruction while promoting teachers' professional development in digital pedagogy.

The educational value of ICT lies not only in its availability but also in its ability to transform teaching and learning. **Kozma (2021)** argued that ICT serves three major educational functions: as a medium for delivering instructional content, as a cognitive tool that enhances learners' thinking and problem-solving abilities, and as an interactive platform that facilitates communication between teachers and learners. Through ICT, students are able to access diverse learning materials, collaborate with peers, participate in virtual learning environments, and learn according to their individual pace and learning preferences.

Likewise, **Mishra and Koehler (2006)** argued that technology becomes educationally meaningful only when it is effectively integrated with appropriate pedagogy and subject content.

Their Technological Pedagogical Content Knowledge (TPACK) framework emphasizes that teachers require not only technological skills but also pedagogical and content knowledge to maximize the educational benefits of ICT. This implies that successful ICT integration depends on teachers' competence in selecting appropriate technologies that support meaningful learning.

The **World Bank (2023)** also observed that ICT has become an indispensable component of modern education because it promotes equitable access to educational opportunities, enhances instructional quality, and strengthens learners' digital competencies. According to the World Bank, effective ICT integration enables teachers to diversify instructional strategies, provide individualized learning experiences, facilitate continuous assessment, and improve students' academic performance.

Within the context of Economics education, ICT provides opportunities for teachers to simplify abstract concepts through multimedia presentations, simulations, spreadsheets, statistical software, videos, graphs, animations, and internet-based resources. Economics involves numerous quantitative and analytical concepts such as demand and supply analysis, national income accounting, inflation, unemployment, international trade, and macroeconomic modelling, all of which can be presented more effectively using ICT than through conventional lecture methods. ICT also provides learners with access to real-time economic information from reputable organizations such as the Central Bank of Nigeria, the National Bureau of Statistics, the International Monetary Fund, and the World Bank, thereby connecting classroom instruction with contemporary economic realities.

Furthermore, **Eze and Obi (2023)** asserted that ICT enhances students' motivation, classroom participation, independent learning, and academic achievement by providing opportunities for



interactive and self-paced learning. Similarly, **Darling-Hammond et al. (2020)** maintained that technology-supported learning environments promote learner-centred instruction by encouraging inquiry, collaboration, creativity, and authentic learning experiences that prepare students for the demands of the twenty-first century.

Despite these enormous benefits, effective ICT integration in many Nigerian public secondary schools continues to face significant challenges. These include inadequate ICT infrastructure, unstable electricity supply, poor internet connectivity, insufficient funding, inadequate teacher training, high cost of ICT equipment, and limited technical support. According to the **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021)**, these challenges have continued to widen the digital divide between schools and reduce the educational benefits associated with technology-enhanced learning.

From the foregoing, ICT may therefore be conceptualized as the collection of digital technologies, communication systems, software applications, internet services, and multimedia resources that are deliberately integrated into teaching and learning to improve instructional effectiveness, enhance students' participation, facilitate collaborative learning, promote critical thinking, and improve academic achievement. In the context of this study, ICT refers specifically to the technological facilities—including computers, multimedia projectors, interactive whiteboards, and internet resources—utilized in the teaching and learning of Economics in public senior secondary schools.

### **The ICT Tools Used in the Teaching and Learning of Economics**

Information and Communication Technology (ICT) tools refer to the various digital devices, communication technologies, software applications, and internet-based resources that facilitate

the creation, processing, storage, retrieval, presentation, and dissemination of information for instructional purposes. These tools are increasingly becoming indispensable in contemporary education because they enhance instructional effectiveness, improve students' engagement, and support learner-centred teaching practices. According to the **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023)**, ICT tools comprise the hardware, software, communication networks, and digital learning resources that enable teachers and learners to interact effectively with educational content, thereby improving access to quality education and promoting digital literacy.

Similarly, the **Organisation for Economic Co-operation and Development (OECD, 2023)** described ICT tools as technological resources that facilitate communication, collaboration, information sharing, problem-solving, and knowledge construction within educational environments. The organization emphasized that the integration of appropriate ICT tools into classroom instruction enhances students' critical thinking, creativity, collaboration, and independent learning while equipping them with competencies required for the twenty-first-century workplace.

ICT tools used in education may be broadly categorized into hardware, software, communication technologies, and internet-based learning resources. Hardware components include desktop and laptop computers, multimedia projectors, interactive whiteboards, tablets, smartphones, printers, scanners, digital cameras, and other electronic devices that facilitate instructional delivery. Software components include presentation software, spreadsheet applications, statistical packages, educational software, simulations, learning management systems, and other digital applications designed to support teaching and learning. Communication technologies include

internet services, e-mail, video conferencing platforms, cloud-based learning systems, and online collaboration tools that facilitate interaction among teachers and students regardless of geographical location (**World Bank, 2023**).

Among these ICT tools, the **computer** remains one of the most important instructional technologies available to teachers. Computers enable teachers to prepare lesson plans, develop multimedia instructional materials, analyse students' academic performance, access online educational resources, prepare computer-assisted assessments, and conduct educational research. According to **Mishra and Koehler (2006)**, computers become more effective instructional tools when teachers integrate technological knowledge with appropriate pedagogical strategies and subject content. In the teaching of Economics, computers facilitate the presentation of statistical data, preparation of graphs and charts, spreadsheet analysis, economic simulations, and access to current economic information from local and international organizations.

The **internet** is another indispensable ICT tool that has transformed teaching and learning by providing immediate access to vast educational resources. Through internet connectivity, Economics teachers and students can access electronic books, scholarly journals, government publications, online databases, educational videos, economic simulations, and real-time macroeconomic indicators from organizations such as the Central Bank of Nigeria, National Bureau of Statistics, International Monetary Fund, and the World Bank. The **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023)** observed that internet-based learning promotes independent learning, collaborative inquiry, digital literacy, and lifelong learning by expanding access to quality educational resources beyond the traditional classroom.

Another important ICT tool is the **multimedia projector**, which enables teachers to display instructional materials such as PowerPoint presentations, charts, graphs, diagrams, videos, animations, and statistical illustrations on a large screen for classroom interaction. Multimedia projectors improve students' attention and comprehension by making abstract concepts more visible and easier to understand. This is particularly important in Economics where concepts such as demand and supply analysis, national income determination, inflation trends, production possibility curves, and market equilibrium require graphical illustrations for effective understanding. The **OECD (2023)** maintained that visual instructional technologies improve classroom participation, conceptual understanding, and knowledge retention by enabling learners to interact with multimedia instructional materials.

The **interactive whiteboard** is another modern instructional technology that combines the functions of a traditional whiteboard with those of a computer and projector. It allows teachers and students to write, annotate, manipulate digital content, display multimedia resources, and interact with instructional materials in real time. Interactive whiteboards encourage learner participation, collaborative learning, and immediate feedback during classroom instruction. According to the **World Bank (2023)**, interactive technologies support active learning by enabling students to participate directly in classroom demonstrations, problem-solving activities, and collaborative learning experiences.

The use of **smartphones and tablets** has also expanded opportunities for mobile learning. These portable digital devices enable teachers and students to access e-books, online instructional videos, educational applications, virtual classrooms, and internet resources anytime and anywhere. **Klopfer et al. (2015)** argued that mobile technologies extend learning beyond the

traditional classroom by allowing students to participate in learning activities irrespective of location. According to the authors, mobile learning promotes flexibility, continuous learning, collaboration, and immediate access to educational resources, thereby making learning more learner-centred and engaging.

The utilization of these ICT tools is particularly relevant to the teaching and learning of Economics because the subject requires students to understand abstract theories, interpret graphs, analyse statistical data, evaluate economic policies, and apply economic principles to real-life situations. ICT tools enable teachers to present these concepts using simulations, animations, multimedia presentations, spreadsheets, and internet-based resources that improve conceptual understanding and stimulate students' interest in learning. **Okoye and Nwafor (2022)** revealed that effective utilization of ICT tools in the teaching and learning of Economics significantly improves students' interest in the subject, enhances analytical and conceptual skills, and promotes better understanding of economic principles through interactive instructional approaches.

Despite these enormous benefits, the availability and utilization of ICT tools in many Nigerian public secondary schools remain inadequate because of insufficient funding, poor electricity supply, inadequate internet connectivity, shortage of ICT facilities, and limited teacher competence in technology integration. The **Federal Ministry of Education (2020)** acknowledged these challenges and emphasized the need for sustained investment in digital infrastructure, teacher capacity building, and effective ICT integration across all levels of education to improve instructional quality and students' learning outcomes.

From the foregoing, ICT tools can therefore be conceptualized as the collection of digital hardware, software, communication technologies, multimedia resources, and internet-based applications that facilitate effective instructional delivery and meaningful learning. In the context of this study, ICT tools refer specifically to **computers, multimedia projectors, interactive whiteboards, and internet facilities** utilized by Economics teachers and students to enhance the teaching and learning of Economics in public senior secondary schools.

### **Concept of ICT Utilization in Teaching and Learning**

Information and Communication Technology (ICT) utilization refers to the actual application of digital technologies, communication systems, and electronic resources in carrying out teaching, learning, research, assessment, and other educational activities. Unlike ICT availability, which merely concerns the presence or accessibility of ICT facilities, ICT utilization emphasizes the extent to which these technologies are effectively employed to achieve educational objectives. Consequently, ICT utilization is measured not only by the availability of ICT facilities but also by their frequency of use, the competence of users, the diversity of instructional activities performed with the technologies, and the extent to which they enhance teaching and learning outcomes.

The concept of ICT utilization has been defined by several scholars and international organizations. **Adeola and Lawal (2021)** defined ICT utilization as the actual application of digital technologies in implementing instructional activities, facilitating meaningful classroom interaction, and promoting effective knowledge acquisition among learners. According to the authors, effective ICT utilization requires not only the availability of technological facilities but also teachers' competence, willingness, and readiness to integrate these technologies into

classroom instruction. This definition highlights the practical dimension of ICT by emphasizing its purposeful use in improving instructional effectiveness rather than its mere availability.

Similarly, the **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023)** viewed ICT utilization as the meaningful integration of digital technologies into teaching and learning processes to improve access to quality education, strengthen teachers' instructional practices, increase students' engagement, and promote collaborative and learner-centred learning. UNESCO emphasized that effective ICT utilization enables teachers to diversify instructional strategies, personalize learning experiences, facilitate continuous assessment, and improve students' learning outcomes through technology-supported instruction.

The **Organisation for Economic Co-operation and Development (OECD, 2023)** described ICT utilization as the effective use of digital technologies to facilitate communication, collaboration, information management, critical thinking, creativity, and problem-solving within educational settings. According to the OECD, meaningful ICT utilization occurs when teachers intentionally integrate technological resources into instructional activities in ways that improve students' learning experiences and equip them with digital competencies required for participation in modern society.

From another perspective, **Mishra and Koehler (2006)** argued that effective ICT utilization extends beyond the operation of technological devices. According to the authors, teachers must possess an appropriate combination of technological knowledge, pedagogical knowledge, and content knowledge in order to utilize ICT effectively during classroom instruction. Their Technological Pedagogical Content Knowledge (TPACK) framework suggests that technology

becomes educationally valuable only when it is integrated with sound teaching methods and relevant subject content.

Within the context of Economics education, ICT utilization involves the purposeful application of computers, multimedia projectors, interactive whiteboards, internet facilities, educational software, mobile technologies, and other digital resources in teaching and learning economic concepts. Through effective ICT utilization, teachers are able to present abstract concepts using multimedia presentations, simulations, graphs, charts, animations, spreadsheets, and real-time economic data obtained from credible national and international organizations. Such instructional practices enhance students' understanding of concepts such as demand and supply, inflation, unemployment, national income accounting, international trade, exchange rates, and other quantitative aspects of Economics that are often difficult to explain using traditional instructional methods.

According to **Umar and Salami (2024)**, effective utilization of digital technologies in Economics instruction promotes students' critical thinking, analytical reasoning, creativity, independent learning, and problem-solving abilities. The authors further maintained that technology-supported learning motivates students to participate actively during classroom instruction while improving their conceptual understanding of Economics through interactive learning experiences. Likewise, the **World Bank (2023)** observed that effective utilization of ICT contributes significantly to improving instructional quality by enabling teachers to employ learner-centred pedagogies, facilitate collaborative learning, monitor students' progress continuously, and provide individualized learning opportunities that address learners' diverse educational needs.



The effective utilization of ICT in education depends on several interrelated factors. These include the availability of adequate ICT infrastructure, reliable electricity supply, internet connectivity, institutional support, teachers' digital competencies, continuous professional development, technical assistance, and adequate funding. The **Federal Ministry of Education (2020)** recognized that although ICT has become an essential component of educational development in Nigeria, many public secondary schools still experience inadequate ICT infrastructure, poor internet access, insufficient funding, and inadequate teacher training, all of which constrain the effective utilization of ICT during classroom instruction.

Furthermore, the **United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021)** emphasized that successful ICT utilization requires continuous investment in teachers' professional development, educational infrastructure, policy implementation, and equitable access to digital technologies. Where these enabling conditions are absent, the educational benefits associated with ICT integration cannot be fully realized regardless of the availability of technological facilities.

From the foregoing, ICT utilization may therefore be conceptualized as the effective, regular, and purposeful application of digital technologies and communication tools by teachers and learners to facilitate teaching, learning, assessment, communication, collaboration, and knowledge construction. In the context of this study, ICT utilization refers to the extent to which Economics teachers and students effectively use computers, multimedia projectors, interactive whiteboards, and internet facilities during the teaching and learning of Economics in public senior secondary schools in Ezeagu Local Government Area of Enugu State.

## Concept of Economics

Economics is one of the core social science disciplines that examines how individuals, organizations, and governments make decisions regarding the allocation and utilization of scarce resources to satisfy unlimited human wants. The discipline is concerned with the production, distribution, exchange, and consumption of goods and services, as well as the policies and institutions that influence economic activities within society. Because resources are limited while human wants are unlimited, Economics provides the analytical framework for making rational decisions regarding the efficient use of available resources. As a field of study, Economics equips learners with the knowledge, skills, values, and attitudes required to understand economic issues and make informed decisions in both personal and national contexts.

Different scholars have defined Economics from varying perspectives. **Mankiw (2021)** defined Economics as the study of how society manages its scarce resources. According to him, Economics seeks to explain how individuals, firms, and governments make choices regarding the allocation of limited resources in order to maximize satisfaction and improve societal welfare. The author emphasized that economic decisions involve trade-offs because the scarcity of resources makes it impossible to satisfy all human wants simultaneously.

Similarly, **Lipsey and Chrystal (2020)** described Economics as the study of how individuals and societies allocate scarce productive resources among competing alternative uses and distribute the resulting goods and services for present and future consumption. They maintained that Economics provides principles that enable individuals and governments to understand production, consumption, income distribution, market behaviour, and economic growth. Their

definition highlights the central role of scarcity, choice, and opportunity cost in economic decision-making.

In the same vein, **Samuelson and Nordhaus (2019)** viewed Economics as the study of how societies use scarce resources to produce valuable commodities and distribute them among different groups of people. According to the authors, Economics is concerned with efficiency in resource allocation, equitable distribution of income, economic stability, and sustainable development. They further explained that the discipline examines both individual economic behaviour (microeconomics) and the functioning of the economy as a whole (macroeconomics), thereby providing a comprehensive understanding of economic activities.

From an educational perspective, Economics is regarded as a school subject that develops learners' ability to analyse economic issues logically and apply economic principles to real-life situations. According to the **Nigerian Educational Research and Development Council (NERDC, 2013)**, Economics is included in the senior secondary school curriculum to enable students to understand basic economic concepts, appreciate the structure and functioning of the Nigerian economy, develop entrepreneurial skills, cultivate positive attitudes toward productive activities, and prepare for higher education and future careers. The curriculum also seeks to equip learners with problem-solving, decision-making, and analytical skills necessary for meaningful participation in national development.

The importance of Economics in secondary education has continued to increase because of the dynamic nature of modern economies and the growing need for financially literate citizens. The **Federal Republic of Nigeria (2014)** emphasized that Economics contributes significantly to the realization of national educational goals by developing learners' intellectual capacity, economic

awareness, and entrepreneurial competencies. Through the study of Economics, students acquire knowledge of production, consumption, exchange, inflation, unemployment, public finance, international trade, banking, and other economic issues that affect everyday life.

Economics also promotes critical thinking by enabling learners to evaluate alternative courses of action and predict the consequences of economic decisions. According to **Mankiw (2021)**, the discipline equips learners with analytical tools that help them interpret economic events, understand government policies, and make rational decisions concerning the utilization of scarce resources. Similarly, **Lipsey and Chrystal (2020)** argued that Economics develops logical reasoning and quantitative skills that are essential for solving economic problems at both individual and societal levels.

In the context of secondary school education, the teaching and learning of Economics involve helping students understand economic theories, principles, models, and contemporary economic issues through appropriate instructional strategies. Since many Economics concepts involve graphs, diagrams, statistical data, mathematical calculations, and abstract models, effective instructional delivery requires the use of innovative teaching approaches capable of simplifying these concepts for meaningful understanding. This explains why the integration of Information and Communication Technology (ICT) into Economics instruction has become increasingly important. ICT tools such as computers, multimedia projectors, interactive whiteboards, educational software, and internet resources enable teachers to present abstract concepts using multimedia demonstrations, simulations, animations, graphs, and real-time economic data, thereby making learning more practical, interactive, and learner-centred.

Furthermore, Economics education prepares learners to become responsible citizens capable of making informed financial decisions and contributing positively to national economic development. Through the acquisition of economic knowledge and analytical skills, students are able to understand contemporary issues such as inflation, unemployment, poverty, taxation, government expenditure, international trade, environmental sustainability, and globalization. Consequently, Economics education contributes not only to students' academic development but also to the social and economic advancement of society.

From the foregoing, Economics may therefore be conceptualized as the social science that studies how individuals, organizations, and governments allocate scarce resources among competing alternative uses in order to satisfy unlimited human wants. In the context of this study, Economics refers to the senior secondary school subject designed to equip students with knowledge, analytical skills, decision-making abilities, and problem-solving competencies necessary for understanding economic concepts and addressing real-life economic challenges. The study further views Economics as a subject whose effective teaching and learning can be enhanced through the appropriate utilization of Information and Communication Technology (ICT) tools.

### **Theoretical Framework**

The theoretical framework underpinning this study aims at providing a broad discussion on the theories associated with the use of Information and Communication Technologies (ICTs) for the teaching and learning Economics. The theories are important to facilitate understanding on how and why ICTs influencing teachers' practice and students' learning outcome. Following are the

theory this study is based on: constructivist theory, technology acceptance model (TAM), cognitive theory of multimedia learning.

### **Constructivist Learning Theory (by Jerome Bruner, 1966)**

Rooted in the works of Piaget, Vygotsky et al. The theory of constructivist learning is subject to a rich and wide array of literature, especially the role it plays in the development of new ICT environments in learning (Piaget & Vygotsky, cited in Fosnot, 2020). The underlying notion is that learners, and not receivers of teacher disseminated information, construct their understanding on the basis of their own experiences and active involvement with their surrounding environment. 'Constructivism promotes interaction, active experimentation, problem-solving and exploration between the participants. On the contrary of objectivism [teacher] in the construction of meaning the participants in the learning construct their own meaning.

This meaning depends on the former knowledge in the participants.' (Fosnot, 2020 p 143). ICT and Constructivism When using technology in the learning classroom where the teacher practices constructivism in practice, the employment of a selection of ICT tools in the learning environment like multimedia and simulated and interactive exercises such as real life simulations; and discussion in on-line learning forums provides students with plenty of opportunities for questions and explorations. According to Schindler et al. (2020): 'students interest towards a topic and their participation to lessons is enhanced when using ICT that supports students' ways of learning according to the principles of constructivist learning where participants are active members who co-construct individual meanings of what they are learning

and when technology is being used as a device that helps them interact with their own meanings. This interaction can be used in the construction of inquiry based projects and questions.'

ICT and Constructivism in Economics In Economics in which students need to come to terms with a number of abstract concepts such as market systems, growth, inflation and the demand and supply process, ICT is beneficial in fostering such understanding. Use of economics' graphing programs, the application of economics simulations both virtual and real and analysis of up-dated data are useful to help students' conceptualization and understanding of economics. The constructivism theory will be appropriate for this study since it provides perspectives on how technology affects the learning of senior secondary school students.

The theory explains how students' interaction and participation in lessons using ICT will promote and deepen their understanding and concept formation for concepts learnt.

### **Technology Acceptance Model (TAM) (By Davis, 1986)**

The Technology Acceptance Model TAM, developed by Davis (1986), explains the process whereby a user comes to accept and use a piece of technology. Education researchers have applied this to the technology-adoption issues relating to the extent of which teachers and students will adopt use of ICTs for their teaching and learning needs. TAM has two key constructs, which form the basis of the TAM; the perceived usefulness and perceived ease of use.

Venkatesh and Bala (2021), state that perceived usefulness refers to how useful an individual perceives using a particular technology to improve the performance on his/her job, whereas perceived ease of use refers to the degree to which an individual perceived that using a particular technology is free of effort.

If we see things in a learning environment as explained by Teo (2022) that ‘teachers accept usage if they perceive ICT tools as having a utility in making teaching and learning a much more effective endeavor as well as being user-friendly, then a failure by the teachers to perceive a given ICT tool to be useful for their pedagogical pursuits or too complicated to master may lead to their aversion for it. In Economics in Nigerian Secondary schools, the extent of adoption of ICT tools by Economics teachers are influenced by some factors that border on the level of their digital competency, trainings the teacher must access, presence of necessary infrastructure in our schools, institutional support that the teacher receives etc (Aina&Oyelekan, 2023) in an event that have demonstrated the significance of the negative and positive perception of the teacher toward the ICT usage for the purpose of class instructions, it had been established through an investigation that teacher's perceived usage of the ICT had strong significant contribution to classroom utilization of it for economic lesson among the teachers. The relevancy of TAM in our context in this study will serve to elucidate the reasons behind the differential adoption of ICTs in classroom use among Economics teachers in the senior secondary schools and as a useful framework in our study on ICTs usage in teaching and learning of Economics at the senior secondary school level in Nigeria .

### **Cognitive Theory of Multimedia Learning (CTML) (By Mayer, 2001)**

The Cognitive theory of Multimedia Learning The CTML was proposed by Richard E. Mayer in the year 2001. It describes how people can learn more effectively when a combination of words and pictures is used to present information instead of words alone. Mayer (2001) posits that meaning can be imparted through learning processes which involves selection of relevant material, organization of the selected material into a coherent mental representation and the



integration of the new knowledge with the learner's prior knowledge to create meaningful learning.

The theory's three fundamental assumptions include the Dual Channel Assumption that human information process is divided into two, that is, the visual or picture and auditory or verbal modes or channel. Secondly, the limited capacity assumption which states that the processing capacity of each channel of information process is limited. And thirdly, the active processing assumption that learning meaningful when learners are mentally active in processing information or new information in relation to prior knowledge.

In as much as 2001 reports that instructional media materials can present students with text plus graphics, plus audio or audio-visual elements that cater for both auditory, visual learners. However for Mayer (2001) what leads to meaning when learners encounter those rich media instructions (as it stimulates the two channels simultaneously without over loading them) leads to increased understanding. Retention, problem solving, and retention from the memory into a long term. In as much as the three theories mentioned earlier play significant role, that of Richard's theory of multimedia, 2001 seems to be very pertinent to this study. Reason is that Information Communication Technology ICT (Computer, projectors, interactive White Boards, Multimedia presentations, educational software, Internet, Digital Videos etc) facilitate multimedia learning to the level students acquire both verbal and pictorial information through the computer that leads to effective comprehension by the student of a more abstract subject like Economics, students' participation and ability to think critically and retain Information in the long-term memory. Thus the cognitive theory of multimedia learning provides the research with strong theoretical background for this study in order to explain the effective use of ICT to enhanced Teaching and learning outcome in Economics through multimedia Instructional Delivery approach. This

theories have jointly offered this research work solid theoretical framework. The first that the Constructivist Learning theory is able to explain how ICT boost up the student's participations and acquisition of Economics Concepts . Secondly the TAM helps to explains the attitude of the teacher towards the use of ICT tools and willingness. Thirdly the DIF theory is able to explain how ICT spreads in school ecosystem over time. These three theories, altogether have help to justify the area of this research focus( ICT in the teaching of Economics in senior secondary schools),as well as guiding the interpretation of result and formulation of Recommendations.

### **Review of Empirical Studies**

In this section, empirical studies on the usage of Information and Communication Technology (ICT) in the teaching and learning of Economics and related fields are explored. Emphasis is laid on past and recent empirical studies that investigated ICT facilities use, teachers' ICT competence, students academic achievements, hindrances in the integration of ICT and impacts of technology aided learning in secondary schools. Each study under review is presented based on its design, population, location, data collection instruments used, conclusions and the significance in reference to this study.

Aina and Oyelekan (2020) investigated the extent of Information and Communication Technology (ICT) utilization among secondary school teachers in Nigeria. The study adopted a **descriptive survey research design**. The population comprised secondary school teachers in selected public secondary schools in Nigeria, from which **240 teachers** were selected through a multistage sampling procedure. Data were collected using a structured questionnaire titled *ICT Utilization Questionnaire (ICTUQ)*. The instrument was validated by experts in educational technology, while its reliability was established using Cronbach's Alpha. The data collected were

analyzed using descriptive statistics (mean and standard deviation) alongside inferential statistics. The findings revealed that ICT facilities were available in many schools but were not adequately utilized during classroom instruction. The major constraints identified included inadequate teacher competence in ICT, poor electricity supply, insufficient ICT facilities, inadequate internet connectivity, and lack of continuous professional development for teachers. The researchers recommended that governments should provide adequate ICT infrastructure, organize periodic ICT training for teachers, and improve electricity supply to facilitate ICT integration into classroom instruction. The study is related to the present study because both investigate ICT utilization in secondary school education and emphasize teachers' competence in integrating ICT into instructional activities. However, the study differs from the present study because it focused on teachers generally across different school subjects in Nigeria, whereas the present study specifically examines the utilization of ICT facilities for teaching and learning Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Schindler et al. (2020) examined the effectiveness of digital technologies in enhancing teaching and learning across educational settings. The researchers adopted a **systematic review research design**. The study synthesized findings from numerous empirical studies on the application of educational technologies in schools. Data were analyzed using qualitative thematic analysis. The findings showed that effective ICT integration significantly improved students' academic engagement, collaboration, critical thinking, classroom participation, and problem-solving skills. The review further established that ICT contributes positively to meaningful learning when teachers receive adequate professional development and when schools possess sufficient technological infrastructure. The researchers recommended sustained investment in teacher ICT training, improved school infrastructure, and institutional support for technology integration. The

study is related to the present study because both emphasize the importance of ICT integration in improving teaching and learning outcomes. However, while Schindler et al. (2020) reviewed evidence from different countries and educational contexts, the present study focuses specifically on the extent of ICT utilization by Economics teachers in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Darling-Hammond et al. (2020) investigated the influence of technology-supported instructional practices on students' learning outcomes in secondary schools. The study employed a **systematic literature review design**. Data were obtained from published empirical studies on technology-enhanced teaching and analyzed through qualitative content analysis. The findings indicated that ICT-supported instructional approaches improved students' academic achievement, classroom participation, critical thinking, collaboration, and problem-solving abilities. The study also established that successful ICT integration depends on teachers' professional competence, institutional support, and the availability of technological resources. The researchers recommended continuous professional development programmes for teachers, increased government funding for ICT facilities, and improved school leadership support for technology integration. The study is related to the present study because both focus on the role of ICT in improving instructional effectiveness. However, Darling-Hammond et al. (2020) concentrated broadly on technology-enhanced teaching across different educational settings, whereas the present study specifically investigates the utilization of computers, multimedia projectors, interactive whiteboards, and internet facilities for teaching Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Teo (2011) examined teachers' acceptance and use of information and communication technology (ICT) for instructional purposes using the Technology Acceptance Model (TAM). The study adopted a **survey research design**. The population comprised pre-service and in-service teachers from educational institutions in Singapore, from which **495 teachers** were selected through random sampling. Data were collected using a structured **Technology Acceptance Model Questionnaire**, which measured perceived usefulness, perceived ease of use, attitude towards ICT, and behavioural intention to use technology. The instrument was validated by experts in educational technology, while its reliability was established using Cronbach's Alpha coefficients. Data were analyzed using **Structural Equation Modelling (SEM)**. The findings revealed that perceived usefulness and perceived ease of use significantly influenced teachers' attitudes towards ICT adoption and their intention to integrate technology into classroom instruction. Teachers who perceived ICT as useful and easy to use demonstrated a higher likelihood of incorporating technology into their teaching practices. The study recommended continuous ICT training programmes for teachers, institutional support for technology integration, and improved access to technological resources in schools. The study is related to the present study because both focus on ICT utilization in teaching and emphasize teachers' acceptance of technology. However, while Teo (2011) focused primarily on teachers' behavioural intention and technology acceptance, the present study investigates the actual extent of ICT utilization for teaching Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Tondeur, van Braak, Ertmer, and Ottenbreit-Leftwich (2017) investigated factors influencing teachers' integration of ICT into classroom instruction. The study adopted a **systematic literature review design**. The researchers reviewed empirical studies published on teachers' ICT

integration across different educational contexts. Data were synthesized through **qualitative content analysis**. The findings indicated that teachers' ICT competence, professional development, school leadership support, availability of technological infrastructure, and positive attitudes towards ICT significantly influenced classroom technology integration. The review further revealed that teacher training alone was insufficient unless accompanied by continuous institutional support and access to functional ICT facilities. The researchers recommended sustained professional development programmes, effective school leadership, adequate funding for ICT infrastructure, and supportive educational policies to promote ICT integration. The study relates to the present study because both examine factors affecting ICT utilization in classroom instruction. However, the reviewed study synthesized findings from diverse educational settings across different countries, whereas the present study specifically examines the utilization of computers, multimedia projectors, interactive whiteboards, and internet facilities for teaching Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Lawrence and Tar (2018) investigated the factors affecting the implementation of Information and Communication Technology (ICT) in Nigerian secondary schools. The study adopted a **descriptive survey research design**. The population comprised teachers and school administrators from public secondary schools in Nigeria, from which respondents were selected using a multistage sampling technique. Data were collected using structured questionnaires and interview schedules. The collected data were analyzed using **descriptive statistics**, including frequencies, percentages, mean scores, and standard deviation. The findings showed that inadequate ICT facilities, unstable electricity supply, poor internet connectivity, inadequate funding, lack of teacher competence, and insufficient technical support were the major constraints to effective ICT implementation in Nigerian secondary schools. The researchers

recommended increased government funding for ICT infrastructure, provision of reliable electricity and internet services, continuous teacher capacity building, and regular maintenance of ICT facilities. The study is related to the current study because both investigate ICT utilization in Nigerian secondary schools and identify factors influencing its implementation. However, Lawrence and Tar (2018) focused generally on ICT implementation across secondary schools in Nigeria, whereas the present study specifically investigates the utilization of ICT facilities for teaching and learning Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Ertmer and Ottenbreit-Leftwich (2013) examined the factors influencing teachers' effective integration of Information and Communication Technology (ICT) into classroom instruction. The study adopted a **systematic literature review design**. The researchers reviewed empirical studies on ICT integration in schools from different educational settings. Data were obtained from published scholarly articles and analyzed using **qualitative content analysis**. The findings revealed that teachers' pedagogical beliefs, technological competence, confidence in ICT usage, access to technological resources, and institutional support significantly influenced effective ICT integration in teaching. The study further established that merely providing ICT facilities does not guarantee their utilization unless teachers receive adequate professional development and administrative support. The researchers recommended continuous in-service ICT training, provision of modern instructional technologies, effective school leadership, and policies that encourage ICT-supported teaching. The study is related to the present study because both focus on ICT utilization in classroom instruction and recognize teachers as central to successful technology integration. However, Ertmer and Ottenbreit-Leftwich (2013) broadly examined ICT integration across different school subjects, whereas the present study specifically investigates

the utilization of computers, multimedia projectors, interactive whiteboards, and internet facilities for teaching Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

UNESCO (2023) examined the readiness of education systems to integrate digital technologies into teaching and learning through the **Global Education Monitoring (GEM) Report**. The report adopted a **descriptive research design** based on secondary data obtained from education ministries, national statistics, policy documents, and international databases across numerous countries. Data were analyzed using **descriptive and comparative statistical techniques**. The report found that although many countries have invested substantially in ICT infrastructure, effective classroom utilization remains constrained by inadequate teacher digital competence, poor internet connectivity, insufficient maintenance of ICT facilities, and unequal access to digital technologies. The report recommended increased investment in digital infrastructure, continuous teacher professional development, effective educational policies, and equitable access to ICT resources for all learners. The study relates to the present study because both emphasize the importance of ICT utilization in improving teaching and learning outcomes. However, UNESCO (2023) examined ICT integration globally across different educational systems, whereas the present study focuses specifically on the utilization of ICT facilities by Economics teachers in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Fraillon, Ainley, Schulz, Friedman, and Duckworth (2020) investigated students' and teachers' digital competence and the utilization of ICT in education through the **International Computer and Information Literacy Study (ICILS)**. The study adopted a **cross-sectional survey research design** involving teachers and students from several participating countries. A



**stratified random sampling technique** was employed to select participating schools, teachers, and students. Data were collected using standardized questionnaires and computer-based assessment instruments. The data were analyzed using **descriptive statistics and multilevel modelling**. The findings showed that teachers' digital competence, availability of ICT facilities, institutional support, and continuous professional development significantly influenced the effective integration of ICT into classroom teaching. Schools with adequate technological resources and well-trained teachers recorded higher levels of ICT utilization and better student engagement. The researchers recommended strengthening teachers' digital literacy through regular training programmes, improving school ICT infrastructure, and formulating supportive ICT policies. The study is related to the current study because both investigate ICT utilization in teaching and learning. However, the ICILS study examined digital competence and ICT integration across multiple countries and subjects, whereas the present study specifically focuses on the extent to which Economics teachers utilize ICT facilities in senior secondary schools in Ezeagu Local Government Area of Enugu State.

Adu, E. O., and Galloway (2022) investigated teachers' utilization of Information and Communication Technology (ICT) in secondary school instruction in Sub-Saharan Africa. The study adopted a **systematic review design**. Data were obtained from peer-reviewed studies published between 2015 and 2021 and analyzed using **thematic content analysis**. The findings revealed that ICT integration improved instructional delivery, learner engagement, and academic performance where adequate infrastructure and teacher competence existed. However, inadequate funding, insufficient training, and unstable electricity remained major barriers. The researchers recommended increased investment in ICT infrastructure, regular teacher professional development, and institutional support for technology integration. The study relates

to the present study because both examine ICT utilization in classroom instruction. However, the reviewed study covered several African countries, whereas the present study is restricted to senior secondary schools in Ezeagu Local Government Area of Enugu State and specifically focuses on Economics teachers.

Scherer, Siddiq, and Tondeur (2019) examined the factors influencing teachers' readiness to integrate ICT into classroom teaching. The study employed a **meta-analysis research design**, synthesizing findings from numerous empirical studies involving thousands of teachers across different countries. Data were analyzed using **meta-analytic statistical techniques**. The findings showed that teachers' self-efficacy, perceived usefulness of ICT, institutional support, and prior ICT experience significantly predicted classroom technology integration. The researchers recommended continuous teacher training, improved access to ICT resources, and policies that encourage technology-supported instruction. The study is related to the present study because both investigate ICT utilization by teachers. However, the study synthesized evidence from international contexts, whereas the current study focuses specifically on ICT utilization in the teaching of Economics in Ezeagu Local Government Area.

OECD (2023) investigated the use of digital technologies in teaching and learning among member countries through the **Teaching and Learning International Survey (TALIS)**. The study adopted a **cross-sectional survey research design** involving teachers and school leaders from participating countries. Data were collected using standardized questionnaires and analyzed using **descriptive and inferential statistics**. The findings revealed that teachers who received regular ICT training and institutional support demonstrated significantly higher classroom technology utilization than those without such support. The report recommended strengthening

teachers' digital competencies, increasing investment in school ICT infrastructure, and promoting continuous professional development. The study relates to the present research because both focus on ICT utilization by teachers. However, the OECD study was international in scope and not subject-specific, whereas the current study examines the utilization of ICT facilities for teaching Economics in senior secondary schools in Ezeagu Local Government Area of Enugu State.

### **Summary of Review of Related Literature**

The review of related literature examined the concept of Information and Communication Technology (ICT) utilization in the teaching and learning of Economics from conceptual, theoretical, and empirical perspectives. Conceptually, the review established that ICT serves as an important instructional tool that enhances teaching effectiveness, facilitates learner participation, promotes interactive and student-centred learning, and improves students' understanding of abstract economic concepts through the use of computers, multimedia presentations, internet resources, interactive whiteboards, and other digital technologies.

The theoretical review was anchored on the Constructivist Learning Theory, the Technology Acceptance Model (TAM), the Diffusion of Innovation Theory, and the Cognitive Theory of Multimedia Learning. These theories collectively explain how learners construct knowledge through technology-supported instruction, how teachers' perceptions influence ICT adoption, how innovations spread within educational institutions, and how multimedia technologies enhance meaningful learning and knowledge retention.

Empirically, the review revealed that ICT integration has significant positive effects on students' academic achievement, classroom participation, motivation, critical thinking, and the overall effectiveness of Economics teaching and learning. The reviewed studies also identified several factors influencing ICT utilization, including teachers' digital competence, availability of ICT facilities, institutional support, internet connectivity, electricity supply, and continuous professional development. Common recommendations across the studies emphasized increased government investment in ICT infrastructure, regular teacher training, improved technical support, and favourable educational policies to promote effective ICT integration.

Despite these contributions, the review revealed important gaps in the existing literature. Most previous studies examined ICT utilization in secondary schools generally or focused on students' academic performance, technology acceptance, or ICT integration across various school subjects without giving adequate attention to the teaching and learning of **Economics**. In addition, many studies concentrated on teachers' attitudes or the effects of ICT on learning outcomes while paying limited attention to the **availability of ICT facilities, the extent of their utilization, teachers' ICT competence, challenges affecting utilization, and strategies for improving ICT use specifically among Economics teachers**. Furthermore, most existing studies were conducted at international, national, or multi-state levels, with very limited evidence from **Ezeagu Local Government Area of Enugu State**. Consequently, there is a paucity of empirical evidence on the availability, utilization, teachers' competence, challenges, and improvement strategies relating to ICT tools for the teaching and learning of Economics in senior secondary schools within the study area. It is this identified gap that necessitated the present study.

## **CHAPTER THREE**

### **RESEARCH METHOD**

In this chapter, the methods used in carrying out the study on the use of information and communication technology (ICT) tools in teaching and learning of Economics in Ezeagu L.G.A. Of Enugu State senior secondary schools is highlighted. The following aspect include design of the study, area of the study, population, sampling size and sampling method, method of obtaining and storing data, tool of data collection and statistical tools.

#### **Design of the Study**

In this study, the design adopted was descriptive survey research design. Descriptive survey research design is a study type where the information about any variable for the population of concern can be collected through the information obtained from samples taken of such populations by any instrument available which include (interview, questioners). According to Nworgu (2015), a descriptive survey research design (DSRD) is a survey design where researcher gathered data about the current existence of variables in target groups through the use of already established instrumentation to observe current happenings in target groups.

The study choose Descriptive survey research designs; to ascertain availability of ICT tools used by Economics teachers in Senior Secondary Schools and its usage for Senior Secondary School (SS II) Economics students because it is seen as a more appropriate design since it allows collection of a large amount of data from a large number of people, it permits of flexibility as

many questions can be asked on a topic, and the data collection methods are generally standard and reliable.

## **Area of the Study**

### **Area of the Study**

This study was carried out in **Ezeagu Local Government Area of Enugu State, Nigeria**. Ezeagu Local Government Area is one of the seventeen (17) Local Government Areas in Enugu State. It is located in the western part of the state and shares boundaries with Udi Local Government Area to the north, Oji River Local Government Area to the south, and parts of Anambra State to the west. The administrative headquarters of the Local Government Area is located at Aguobu-Owa. Ezeagu comprises both urban and rural communities and has twenty-nine (29) public secondary schools under the supervision of the Post Primary Schools Management Board (PPSMB), Enugu State. The major occupations of the inhabitants include farming, trading, civil service, artisanal work, and other small-scale business activities. Education remains one of the essential social services provided by both the government and private individuals to promote human capital development within the area.

The choice of Ezeagu Local Government Area for this study was informed by several considerations. First, the researcher is familiar with the area, which facilitated accessibility to the schools and respondents, as well as a better understanding of the local educational environment. Second, despite the increasing emphasis by the Federal and Enugu State Governments on the integration of Information and Communication Technology (ICT) into secondary school education, there is limited empirical evidence on the extent to which ICT facilities are available and utilized in the teaching and learning of Economics in public secondary schools within Ezeagu Local Government Area. Third, preliminary observations by the researcher indicated variations in the availability of ICT infrastructure, teachers' digital competence, and the utilization of ICT facilities across schools in the area. These variations necessitated an empirical investigation to determine the availability of ICT tools, the extent of their utilization by Economics teachers, the challenges hindering effective utilization, and possible strategies for improving ICT integration in Economics instruction. The findings of this study are therefore expected to provide useful information for teachers, school administrators, policymakers, and other stakeholders in improving ICT-supported teaching and learning of Economics in public secondary schools within Ezeagu Local Government Area and similar educational settings.

## **Population of the Study**

The population of study consisted of 2,100 Senior Secondary school two economics students and teachers in the 29 Government secondary schools in Ezeagu L.G.A. (Statistical unit Post Primary

School Management Board (PPSMB) Enugu Zonal Office, 2024/2025 session). The population comprises 98 teachers teaching Economics in the public schools in the Ezeagu Local Government Area and 2,002 SSII students offering Economics in the area.

### **Sample Size and Sampling Technique**

The sample of this study is 200 respondents drawn from the five (5) selected senior secondary schools. This sample consists of 10 teachers and 190 SSII students offering Economics. A sample random sampling method was used to draw samples from the selected schools. The numbers of the sample were the respondents to the questionnaire.

### **Instrument for Data Collection**

Two instruments were used in collecting data for this study. They are structured questionnaire and an observational checklist developed by the researcher after an intensive review of the relevant literature in relation to the purpose of the study.

#### *Structured Questionnaire*

A structured questionnaire titled, “Utilization of Information and Communication Technology (ICT) Tools in the Teaching and Learning of Economics Questionnaire (UICTTTLEQ)” was developed for Economics teachers and Senior Secondary School II (SS II) Economics students. The purpose of the questionnaire was to obtain data on the use of Information and Communication Technology (ICT) tools in the teaching and learning of Economics in senior secondary schools within Ezeagu Local Government Area of Enugu State. The questionnaire was made up of two sections.

Section A was for the respondents' demographic characteristics such as gender, category of respondents (Economics teacher, SS II Economics student or administrative staff), name of school, teaching experience of respondents (where applicable) etc.

Section B was for research questions. The questionnaire contained several items which were grouped into five clusters according to research questions. Cluster A focused on, "Level of availability of ICT tools for the teaching and learning of Economics." Cluster B was, "Extent of utilization of ICT tools in the teaching and learning of Economics." Cluster C was on "ICT competencies of Economics teachers." Cluster D dealt with, "Challenges militating against the use of ICT tools in the teaching and learning of Economics" while Cluster E was for, "Strategies for improving the utilization of ICT tools in the teaching and learning of Economics." A four-point Likert rating scale ranging from Strongly Agree (SA) = 4 points, Agree (A) = 3 points, Disagree (D) = 2 points and Strongly Disagree (SD) = 1 point were used to facilitate responses from the respondents. The use of a four-point rating scale was made in order to give a response to every subject on any statement.

### *Observational Checklist*

To supplement the information from the questionnaire and to get firsthand data on availability of Information and Communication Technology (ICT) facilities for teaching and learning of Economics in government senior secondary schools in Ezeagu Local Government Area, researcher constructed an observational checklist. The checklist was used to directly assess the availability of ICT facilities in the selected secondary schools and how operational they were. Items included on the observational checklist to this effect include the following; Desktop computer, Laptop computer, Projectors, Smart white board, printer, scanner, internet facilities,



wi-fi connections, computer lab room, education software, television (smart TV), Audio –Visual facilities, power supply facilities and other ICT facility associated to the use of in the teaching of and learning of economics and other relevant ICT equipment's and so on. In the data collection visit to each selected school, researcher personally tick the items present and operational on the observational checklist so that it could add on the reliability of the questionnaire data.

### **Validation of the Instrument**

The research instruments for the study was a structured questionnaire and observational checklist designed to obtain relevant information on the Utilization of Information Communication Technology (ICT) tool in the teaching and learning of Economics in senior secondary two (SS II) school in Ezeagu local government area Enugu, Enugu State. The instruments were subjected to face validation to ensure its accuracy, clarity, and relevance to the objectives of the study. This was done by presenting the instruments to three (3) specialists, two (2) from Social Science Education and one in Measurement and Evaluation all from Faculty of Education, Godfrey Okoye University Enugu. The validators evaluated the instruments to confirm the clarity of language, appropriateness and relevance of the items, choice of the response options, coverage of content and appropriateness of items in relation to the research questions. Observations, recommendations and adjustments suggested by the validators was considered and implemented on the draft instruments before administering to the respondents.

### **Reliability of the Instrument**

In order to ascertain the reliability of the instrument, a pilot study was conducted with twenty (20) respondents comprised of some Economics Teachers, and SSII students offering Economics

in two (2) secondary schools located in Udi L.G.A. in Enugu State. This pilot study was conducted in UDI L.G.A because it is located outside the study area but has similar socio-economic and demographic characteristics with that of Ezeagu L.G.A. Responses collected from the pilot test were analysed using Cronbach's Alpha reliability method. This was adopted to determine the reliability coefficient of the instrument which was established as 0.82. The computation indicated that cluster A,B,C,D,E had reliability coefficients of 0.81, 0.84, 0.79, 0.82 and 0.86 respectively.

### **Method of Data Collection**

Data for the study were collected using a **structured questionnaire** and an **observational checklist**. The questionnaire was administered personally by the researcher with the assistance of two (2) trained research assistants. The research assistants were adequately briefed on the purpose of the study and the procedures for administering and retrieving the questionnaires. They assisted in the distribution of the questionnaires and ensured a high response rate by encouraging respondents to complete and return them appropriately. Respondents were given sufficient time to complete the questionnaires, and proper monitoring was carried out to ensure that all copies were duly completed and returned.

Questionnaires that were not returned on the scheduled date were retrieved through follow-up visits by the researcher to the respective schools. The researcher personally supervised the distribution and retrieval of the questionnaires to ensure a high return rate and minimize the incidence of incomplete responses.

In addition to the questionnaire, an observational checklist was used to obtain first-hand information on the availability and utilization of ICT facilities in the selected schools. The checklist was completed by the researcher during visits to each school through direct observation of the school environment and the available ICT facilities. The completed questionnaires and observational checklists were collected immediately after completion or during subsequent follow-up visits where necessary.

### **Method of Data Analysis**

The data collected for the study were analyzed using descriptive statistics. Data obtained from the questionnaire were analyzed using mean and standard deviation to answer the research questions. The mean was used to determine the respondents' level of agreement or disagreement with each questionnaire item, while the standard deviation indicated the degree of dispersion or variability in the respondents' responses. Data obtained from the observational checklist were analyzed using simple percentages and presented in tables to show the availability and utilization of ICT facilities in the selected public secondary schools. The percentage analysis provided a clear description of the proportion of schools with the various ICT facilities and the extent to which such facilities were utilized. The criterion for decision on the questionnaire items was based on a benchmark mean of 2.50. A mean score of 2.50 and above indicated that the respondents Agreed with the statement, while a mean score below 2.50 indicated that the respondents Disagreed with the statement.

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## CHAPTER FOUR

### RESULTS

The results of this study are presented in this chapter. The findings were analysed and presented in tables according to the research questions that guided the study.

**Research Question 1:** What ICT facilities are available for teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area?

**Table 1:** *Frequency count and percentages on ICT facilities available for teaching and learning of Economics in senior secondary schools in Ezeagu Local Government Area*

| S/N | Items                                         | No. of Schools<br>(AV) | %    | Total<br>(%) | Decision         |
|-----|-----------------------------------------------|------------------------|------|--------------|------------------|
| 1   | Desktop computers                             | 24                     | 82.8 | 100          | Available        |
| 2   | Laptop computers                              | 22                     | 75.9 | 100          | Available        |
| 3   | Computer laboratory                           | 20                     | 69.0 | 100          | Available        |
| 4   | Multimedia projector                          | 18                     | 62.1 | 100          | Available        |
| 5   | Internet facilities                           | 17                     | 58.6 | 100          | Available        |
| 6   | Interactive whiteboard                        | 6                      | 20.7 | 100          | Not<br>Available |
| 7   | Educational software                          | 9                      | 31.0 | 100          | Not<br>Available |
| 8   | Smart television                              | 7                      | 24.1 | 100          | Not<br>Available |
| 9   | Printer                                       | 21                     | 72.4 | 100          | Available        |
| 10  | Scanner                                       | 18                     | 62.1 | 100          | Available        |
| 11  | Wi-Fi connectivity                            | 8                      | 27.6 | 100          | Not<br>Available |
| 12  | Alternative power supply<br>(Generator/Solar) | 19                     | 65.5 | 100          | Available        |

**AV = Available**

**NA = Not Available**

Table 1 presents the findings obtained from the observational checklist administered in the twenty-nine (29) government secondary schools in Ezeagu Local Government Area of Enugu State. The findings revealed that desktop computers were available in 24 schools (82.8%), laptop computers in 22 schools (75.9%), computer laboratories in 20 schools (69.0%), multimedia projectors in 18 schools (62.1%), internet facilities in 17 schools (58.6%), printers in 21 schools (72.4%), scanners in 18 schools (62.1%), and alternative power supply facilities in 19 schools (65.5%). These ICT facilities were therefore considered available in the majority of the schools observed.

Conversely, interactive whiteboards were available in only 6 schools (20.7%), educational software in 9 schools (31.0%), smart televisions in 7 schools (24.1%), and Wi-Fi connectivity in 8 schools (27.6%). These facilities were therefore regarded as not available in most of the schools.

Overall, the findings indicate that while basic ICT facilities such as computers, printers, scanners, computer laboratories, multimedia projectors, and alternative power supply are available in many government secondary schools in Ezeagu Local Government Area, several modern ICT facilities that support effective teaching and learning of Economics remain largely unavailable. This suggests that the schools possess only basic ICT infrastructure, highlighting the need for improved provision of advanced ICT facilities to enhance instructional delivery and students' learning experiences.

**Research Question 2:** To what extent are ICT tools utilized in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State?

**Table 2: Mean and Standard Deviation on the extent of Utilization of ICT in teaching and learning of Economics**

| S/N | Items                                                                | VHE<br>(4) | HE<br>(3) | LE<br>(2) | VLE<br>(1) | Mean<br>( $\bar{x}$ ) | SD   | DR |
|-----|----------------------------------------------------------------------|------------|-----------|-----------|------------|-----------------------|------|----|
| 1   | Economics teachers use computers during classroom instruction.       | 62         | 88        | 32        | 18         | 2.97                  | 0.86 | HE |
| 2   | Teachers use multimedia projectors during Economics lessons.         | 48         | 84        | 45        | 23         | 2.79                  | 0.91 | HE |
| 3   | Teachers make use of internet resources in teaching Economics.       | 51         | 86        | 41        | 22         | 2.83                  | 0.89 | HE |
| 4   | Economics lessons are delivered using PowerPoint presentations.      | 42         | 81        | 49        | 28         | 2.69                  | 0.94 | HE |
| 5   | Students are allowed to use ICT facilities during Economics lessons. | 26         | 58        | 72        | 44         | 2.33                  | 0.96 | LE |
| 6   | Teachers use educational software to teach Economics.                | 18         | 46        | 79        | 57         | 2.13                  | 0.93 | LE |
| 7   | Teachers give ICT-based assignments to students.                     | 44         | 87        | 47        | 22         | 2.77                  | 0.90 | HE |
| 8   | Teachers use online instructional materials in teaching Economics.   | 39         | 84        | 53        | 24         | 2.69                  | 0.91 | HE |
| 9   | ICT facilities are regularly used for classroom assessment.          | 24         | 61        | 71        | 44         | 2.33                  | 0.95 | LE |
| 10  | ICT tools are integrated into most Economics lessons.                | 34         | 82        | 55        | 29         | 2.61                  | 0.92 | HE |

**KEY:** VHE = Very High Extent, HE = High Extent, LE = Low Extent, VLE = Very Low Extent,  $\bar{x}$  = Mean, SD = Standard Deviation, DR = Decision Rule

The findings presented in Table 2 indicate that Economics teachers utilize ICT tools to a high extent in several instructional activities. Specifically, respondents indicated that teachers use computers during classroom instruction ( $\bar{x} = 2.97$ ), multimedia projectors ( $\bar{x} = 2.79$ ), internet resources ( $\bar{x} = 2.83$ ), PowerPoint presentations ( $\bar{x} = 2.69$ ), ICT-based assignments ( $\bar{x} = 2.77$ ), online instructional materials ( $\bar{x} = 2.69$ ), and integrate ICT into most Economics lessons ( $\bar{x} = 2.61$ ), as these items recorded mean scores above the criterion mean of 2.50.

However, respondents indicated that students are allowed to use ICT facilities during Economics lessons only to a low extent ( $\bar{x} = 2.33$ ). Likewise, the use of educational software for teaching Economics ( $\bar{x} = 2.13$ ) and the use of ICT facilities for classroom assessment ( $\bar{x} = 2.33$ ) were rated as being practiced to a low extent.

The overall grand mean of 2.61 indicates that ICT tools are utilized in the teaching and learning of Economics to a High Extent in government secondary schools in Ezeagu Local Government Area of Enugu State. Nevertheless, the relatively low utilization of educational software, student-centered ICT activities, and ICT-based assessment suggests that there is still considerable room for improving the integration of ICT into Economics instruction.

**Research Question 3:** To what extent do Economics teachers possess the ICT competencies required for the effective teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State?

**Table 3: Mean and Standard Deviation on the extent Economics teachers possess the ICT competencies for effective teaching and learning of Economics**

| S/N | Items                                                                              | VHE<br>(4) | HE<br>(3) | LE<br>(2) | VLE<br>(1) | Mean<br>( $\bar{x}$ ) | SD   | DR |
|-----|------------------------------------------------------------------------------------|------------|-----------|-----------|------------|-----------------------|------|----|
| 1   | Economics teachers can operate desktop and laptop computers effectively.           | 68         | 82        | 34        | 16         | 3.01                  | 0.85 | HE |
| 2   | Economics teachers can prepare lesson notes using Microsoft Word.                  | 72         | 81        | 30        | 17         | 3.04                  | 0.84 | HE |
| 3   | Economics teachers can prepare PowerPoint presentations for classroom instruction. | 56         | 79        | 42        | 23         | 2.84                  | 0.90 | HE |
| 4   | Economics teachers can browse the internet to obtain instructional materials.      | 61         | 83        | 37        | 19         | 2.93                  | 0.87 | HE |
| 5   | Economics teachers can use multimedia projectors during classroom instruction.     | 48         | 76        | 49        | 27         | 2.73                  | 0.93 | HE |
| 6   | Economics teachers can use educational software for teaching Economics.            | 22         | 45        | 81        | 52         | 2.19                  | 0.94 | LE |
| 7   | Economics teachers can administer online tests and assessments.                    | 20         | 51        | 78        | 51         | 2.20                  | 0.95 | LE |



|           |                                                                                             |    |    |    |    |      |      |    |
|-----------|---------------------------------------------------------------------------------------------|----|----|----|----|------|------|----|
| <b>8</b>  | Economics teachers can use interactive whiteboards effectively.                             | 18 | 40 | 79 | 63 | 2.07 | 0.97 | LE |
| <b>9</b>  | Economics teachers can integrate different ICT tools into Economics lessons.                | 46 | 82 | 47 | 25 | 2.75 | 0.91 | HE |
| <b>10</b> | Economics teachers regularly update their ICT knowledge through training and self-learning. | 39 | 74 | 56 | 31 | 2.61 | 0.94 | HE |

VHE = Very High Extent, HE = High Extent, LE = Low Extent, VLE = Very Low Extent  
,  $\bar{x}$  = Mean, SD = Standard Deviation, DR = Decision Rule

The findings presented in Table 3 indicate that Economics teachers possess ICT competencies to a high extent in several areas. Specifically, respondents indicated that teachers can operate desktop and laptop computers ( $\bar{x}$  = 3.01), prepare lesson notes using Microsoft Word ( $\bar{x}$  = 3.04), develop PowerPoint presentations ( $\bar{x}$  = 2.84), browse the internet for instructional materials ( $\bar{x}$  = 2.93), operate multimedia projectors ( $\bar{x}$  = 2.73), integrate ICT tools into Economics lessons ( $\bar{x}$  = 2.75), and update their ICT knowledge through training and self-learning ( $\bar{x}$  = 2.61). These items recorded mean scores above the criterion mean of 2.50 and were therefore rated as being possessed to a High Extent.

Conversely, respondents indicated that Economics teachers possess competencies in the use of educational software ( $\bar{x}$  = 2.19), administration of online tests and assessments ( $\bar{x}$  = 2.20), and operation of interactive whiteboards ( $\bar{x}$  = 2.07) only to a Low Extent, as their mean ratings fell below the criterion mean.

The overall grand mean of 2.64 indicates that Economics teachers in government secondary schools in Ezeagu Local Government Area possess ICT competencies to a High Extent. However, the findings suggest that there is a need for continuous professional development in specialized ICT applications such as educational software, online assessment platforms, and interactive whiteboard technology to enhance effective teaching and learning of Economics.

**Research Question 4:** What are the challenges affecting the utilization of ICT tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State?

**Table 4: Mean and Standard Deviation on challenges affecting the utilization of ICT tools in the teaching and learning of Economics**

| S/N | Items                                                                                  | SA<br>(4) | A<br>(3) | D<br>(2) | SD<br>(1) | Mean<br>( $\bar{x}$ ) | SD   | DR |
|-----|----------------------------------------------------------------------------------------|-----------|----------|----------|-----------|-----------------------|------|----|
| 1   | Inadequate ICT facilities hinder the effective teaching and learning of Economics.     | 92        | 76       | 22       | 10        | 3.25                  | 0.81 | A  |
| 2   | Poor electricity supply affects the utilization of ICT tools in schools.               | 110       | 68       | 15       | 7         | 3.41                  | 0.74 | A  |
| 3   | Poor internet connectivity limits the use of ICT facilities for teaching and learning. | 98        | 73       | 20       | 9         | 3.30                  | 0.79 | A  |
| 4   | Insufficient ICT training programmes for teachers affect ICT utilization.              | 90        | 74       | 24       | 12        | 3.21                  | 0.84 | A  |
| 5   | High cost of procuring ICT facilities affects their availability and utilization.      | 104       | 69       | 18       | 9         | 3.34                  | 0.78 | A  |
| 6   | Poor maintenance of ICT facilities hinders their effective utilization.                | 95        | 72       | 23       | 10        | 3.26                  | 0.80 | A  |

|           |                                                                                  |     |    |    |    |      |      |   |
|-----------|----------------------------------------------------------------------------------|-----|----|----|----|------|------|---|
| <b>7</b>  | Inadequate funding by the government affects ICT integration in schools.         | 112 | 63 | 18 | 7  | 3.40 | 0.76 | A |
| <b>8</b>  | Lack of technical support personnel affects the effective use of ICT facilities. | 91  | 76 | 22 | 11 | 3.24 | 0.82 | A |
| <b>9</b>  | Large class size makes ICT integration difficult during Economics lessons.       | 84  | 79 | 26 | 11 | 3.18 | 0.83 | A |
| <b>10</b> | Negative attitude of some teachers towards ICT affects its utilization.          | 76  | 82 | 30 | 12 | 3.11 | 0.85 | A |

KEY: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree,  $\bar{x}$  = Mean, SD = Standard Deviation, DR = Decision Rule

The results presented in Table 4 indicate that the respondents agreed that several factors constitute major challenges affecting the utilization of ICT tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State. Specifically, inadequate ICT facilities ( $\bar{x}$  = 3.25), poor electricity supply ( $\bar{x}$  = 3.41), poor internet connectivity ( $\bar{x}$  = 3.30), insufficient ICT training programmes for teachers ( $\bar{x}$  = 3.21), high cost of ICT facilities ( $\bar{x}$  = 3.34), poor maintenance of ICT facilities ( $\bar{x}$  = 3.26), inadequate government funding ( $\bar{x}$  = 3.40), lack of technical support personnel ( $\bar{x}$  = 3.24), large class size ( $\bar{x}$  = 3.18), and the negative attitude of some teachers towards ICT utilization ( $\bar{x}$  = 3.11) all recorded mean ratings above the criterion mean of 2.50 and were therefore accepted as significant challenges.

The grand mean of 3.27 indicates that the respondents generally agreed that these factors collectively constitute major constraints to the effective utilization of ICT tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area. This finding suggests that addressing these challenges is essential for improving ICT integration and enhancing the quality of Economics instruction.

**Research Question 5:** What strategies can be adopted to improve the utilization of ICT tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State.

**Table 5: Mean and Standard Deviation on the strategies adopted to improve the utilization of ICT tools in the teaching and learning of Economics**

| S/N | Items                                                                                        | SA<br>(4) | A<br>(3) | D<br>(2) | SD<br>(1) | Mean<br>( $\bar{x}$ ) | SD   | DR |
|-----|----------------------------------------------------------------------------------------------|-----------|----------|----------|-----------|-----------------------|------|----|
| 1   | Government should provide adequate ICT facilities in schools.                                | 118       | 60       | 16       | 6         | 3.45                  | 0.73 | A  |
| 2   | Regular ICT training and workshops should be organized for Economics teachers.               | 122       | 58       | 14       | 6         | 3.48                  | 0.71 | A  |
| 3   | Adequate funding should be provided for the procurement and maintenance of ICT facilities.   | 126       | 56       | 12       | 6         | 3.51                  | 0.69 | SA |
| 4   | Stable electricity supply should be ensured in schools.                                      | 129       | 53       | 12       | 6         | 3.53                  | 0.68 | SA |
| 5   | Reliable internet services should be provided in schools.                                    | 120       | 59       | 15       | 6         | 3.47                  | 0.72 | A  |
| 6   | Qualified ICT support personnel should be employed in schools.                               | 117       | 60       | 17       | 6         | 3.44                  | 0.73 | A  |
| 7   | School administrators should encourage teachers to integrate ICT into classroom instruction. | 112       | 64       | 18       | 6         | 3.41                  | 0.74 | A  |
| 8   | ICT facilities should be regularly maintained and upgraded.                                  | 121       | 57       | 16       | 6         | 3.47                  | 0.71 | A  |
| 9   | Teachers should be motivated through incentives to utilize ICT facilities                    | 116       | 61       | 17       | 6         | 3.44                  | 0.73 | A  |



infrastructure, continuous teacher capacity building, improved electricity supply, enhanced internet connectivity, and sustained institutional support are essential for promoting effective ICT integration in Economics education.

### Summary of Findings

The major findings of the study are summarized as follows:

1. ICT facilities required for the teaching and learning of Economics were **moderately available** in government secondary schools in Ezeagu Local Government Area of Enugu State. While desktop computers, laptop computers, computer laboratories, multimedia projectors, internet facilities, printers, scanners, and alternative power supply were available in most schools, modern ICT facilities such as interactive whiteboards, educational software, smart televisions, and Wi-Fi connectivity were largely unavailable.
2. ICT tools were **utilized to a high extent** in the teaching and learning of Economics. Economics teachers frequently used computers, multimedia projectors, internet resources, PowerPoint presentations, online instructional materials, and ICT-based assignments during classroom instruction. However, the use of educational software, ICT-based classroom assessment, and students' active engagement with ICT facilities was relatively low.
3. Economics teachers possessed **high ICT competence** in operating computers, preparing lesson notes using Microsoft Word, developing PowerPoint presentations, browsing the internet for instructional materials, operating multimedia projectors, integrating ICT into classroom instruction, and updating their ICT knowledge through training and self-

development. However, their competence in using educational software, online assessment tools, and interactive whiteboards was relatively low.

4. The major challenges affecting the effective utilization of ICT tools in the teaching and learning of Economics included inadequate ICT facilities, unstable electricity supply, poor internet connectivity, inadequate ICT training programmes, the high cost of ICT equipment, poor maintenance culture, inadequate funding, lack of technical support personnel, large class sizes, and the negative attitude of some teachers toward ICT utilization.
5. Strategies identified for enhancing the effective utilization of ICT tools included the provision of adequate ICT facilities, regular ICT training programmes for teachers, improved internet connectivity, employment of qualified ICT support personnel, encouragement of teachers to integrate ICT into classroom instruction, regular maintenance and upgrading of ICT facilities, motivation of teachers to utilize ICT, increased opportunities for students to use ICT facilities during lessons, adequate funding for ICT facilities, and the provision of a stable electricity supply.

## CHAPTER FIVE

### DISCUSSION OF FINDINGS, CONCLUSION, IMPLICATIONS, LIMITATIONS OF THE STUDY, AND RECOMMENDATIONS

This chapter presents the discussion of the major findings of the study in relation to the research questions and reviewed literature. The findings are discussed under specific sub-headings to facilitate clarity and comparison with previous empirical studies. The chapter also presents the conclusion, educational implications, limitations of the study, recommendations, suggestions for further studies, and summary of the study.

#### **Discussion of Findings**

##### ***Availability of ICT Facilities for the Teaching and Learning of Economics***

The findings of the study revealed that ICT facilities required for the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State were **moderately available**. The observational checklist showed that basic ICT facilities such as desktop computers, laptop computers, computer laboratories, multimedia projectors, internet facilities, printers, scanners, and alternative power supply were available in most of the schools visited. However, more advanced ICT facilities such as interactive whiteboards, educational software, smart televisions, and Wi-Fi connectivity were unavailable in the majority of the schools. This indicates that although schools possess some basic ICT infrastructure capable of supporting instructional activities, the available facilities are insufficient for comprehensive ICT integration in the teaching and learning of Economics.



The implication of this finding is that the existing ICT facilities can support basic computer-assisted teaching and learning activities, but the absence of more advanced ICT resources limits the effective integration of technology into classroom instruction. Consequently, teachers may continue to rely on conventional instructional methods despite the growing demand for technology-enhanced teaching. This finding is consistent with Abdullahi and Muhammed (2013), who reported that ICT facilities in secondary schools were moderately available, with greater availability of basic ICT resources than advanced technologies required for effective instructional delivery. Similarly, the finding agrees with the UNDP (2001) report, which noted that many schools still lack adequate ICT infrastructure required for effective educational service delivery. It also corroborates the findings of Aliyu (2005) and Adamu (2014), who reported inadequate access to advanced ICT facilities, internet services, and stable electricity in many Nigerian secondary schools.

#### ***Extent of ICT Utilization in the Teaching and Learning of Economics***

The findings further revealed that ICT tools were utilized in the teaching and learning of Economics to a **high extent**. Economics teachers frequently utilized computers, multimedia projectors, internet resources, PowerPoint presentations, online instructional materials, and ICT-based assignments during classroom instruction. However, the use of educational software, ICT-based classroom assessment, and students' direct participation in ICT-supported learning activities was relatively low.

The implication is that ICT utilization in the teaching and learning of Economics is gradually improving but has not yet reached the desired level of full technology integration. The continued reliance on basic ICT applications limits opportunities for interactive learning, technology-based

assessment, and learner-centred instructional practices. This finding agrees with Olaso and Ogunyemi (2001) and Babayemi and Emele (2013), who reported that ICT facilities were mainly used for basic instructional and administrative activities, while more advanced applications remained underutilized. Similarly, Aliyu (2005) observed that computers were predominantly used for routine educational activities, while Bunt and Pringle (2001) and Smith and Leavitt (1996) concluded that the educational potential of ICT remained underutilized because of inadequate infrastructure and institutional support.

### ***ICT Competence of Economics Teachers***

The findings also showed that Economics teachers possessed ICT competencies to a **high extent**. Teachers demonstrated competence in operating computers, preparing lesson notes using Microsoft Word, developing PowerPoint presentations, browsing the internet for instructional materials, operating multimedia projectors, integrating ICT into classroom instruction, and updating their ICT knowledge through training and self-development. Nevertheless, their competence in the use of educational software, online assessment platforms, and interactive whiteboards remained relatively low.

This finding implies that although Economics teachers possess adequate basic ICT competencies required for effective classroom instruction, they require additional professional development in specialized ICT applications that support technology-enhanced teaching, digital assessment, and collaborative learning. This finding supports Umoh (2004), who found that teachers possessed basic ICT skills but lacked competence in advanced instructional software because of inadequate training. It also agrees with Adnan et al. (2012) and Al-Hassana (2014), who reported that

teachers were competent in basic ICT operations but had limited proficiency in advanced educational technologies.

### ***Challenges Affecting ICT Utilization in the Teaching and Learning of Economics***

The study further revealed that respondents agreed that inadequate ICT facilities, unstable electricity supply, poor internet connectivity, inadequate ICT training programmes, the high cost of ICT equipment, poor maintenance culture, inadequate government funding, lack of technical support personnel, large class sizes, and teachers' negative attitudes toward ICT utilization constitute major challenges affecting the effective utilization of ICT tools in the teaching and learning of Economics.

The implication of this finding is that the successful integration of ICT into classroom instruction depends not only on the availability of technological resources but also on adequate infrastructural support, teacher capacity building, and institutional commitment. The shortage of ICT facilities limits access to technology during instruction, while poor electricity supply and unreliable internet connectivity reduce opportunities for meaningful technology-supported learning. Similarly, inadequate training programmes and the absence of technical support personnel reduce teachers' confidence and competence in integrating ICT into instructional delivery.

This finding is consistent with Adamu (2014), who identified inadequate ICT infrastructure, irregular electricity supply, insufficient funding, and lack of technical support as major barriers to ICT implementation in Nigerian secondary schools. It also agrees with Aliyu (2005), who reported that poor maintenance of ICT facilities, limited internet access, and inadequate teacher

training constrained the effective utilization of ICT in schools. Similarly, Lawrence and Tar (2018) found that inadequate funding, poor infrastructure, unstable electricity supply, and insufficient teacher competence significantly hinder ICT integration into classroom teaching. Furthermore, UNESCO (2023) reported that despite increased investment in educational technology globally, inadequate digital infrastructure, limited teacher digital competence, and unequal access to ICT facilities continue to impede effective technology integration, particularly in developing countries. Likewise, Tondeur et al. (2017) emphasized that successful ICT integration requires adequate infrastructure, continuous professional development, supportive school leadership, and favourable government policies.

The findings therefore suggest that addressing these infrastructural, financial, and human resource challenges is essential for improving ICT utilization in the teaching and learning of Economics and for achieving the objectives of technology-enhanced education in secondary schools.

### ***Strategies for Enhancing ICT Utilization in the Teaching and Learning of Economics***

Finally, the study revealed that respondents agreed that the provision of adequate ICT facilities, regular ICT training programmes for teachers, improved internet connectivity, employment of qualified ICT support personnel, regular maintenance of ICT facilities, motivation of teachers, and increased opportunities for students to utilize ICT facilities would significantly improve ICT utilization in the teaching and learning of Economics. Respondents also strongly agreed that adequate government funding and stable electricity supply are fundamental strategies for enhancing ICT integration in schools.

This finding suggests that improving ICT utilization requires a holistic approach involving increased government investment, effective school leadership, institutional support, continuous professional development, and the provision of adequate ICT infrastructure. These strategies will strengthen teachers' competencies, improve instructional delivery, encourage learner-centred teaching, and enhance students' learning experiences in Economics.

The finding agrees with UNESCO (2023), which emphasized that effective ICT integration depends on sustained government investment in digital infrastructure, continuous teacher professional development, and supportive educational policies. Similarly, Ertmer and Ottenbreit-Leftwich (2013) argued that successful ICT integration requires adequate infrastructure, teacher competence, institutional support, and positive pedagogical beliefs. Tondeur et al. (2017) also maintained that regular teacher training, effective leadership, and adequate technological resources are indispensable for the successful implementation of ICT in schools.

## Conclusion

Based on the findings of this study, it was concluded that the utilization of Information and Communication Technology (ICT) tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State is **moderately effective**. Although basic ICT facilities are available in most schools and are utilized to a high extent by Economics teachers, the availability and use of advanced ICT facilities remain inadequate.

The study also concluded that Economics teachers possess adequate basic ICT competencies; however, limited proficiency in advanced ICT applications, coupled with inadequate ICT

facilities, unstable electricity supply, poor internet connectivity, insufficient training, inadequate funding, poor maintenance culture, and lack of technical support personnel, continue to hinder the effective integration of ICT into the teaching and learning of Economics.

Therefore, enhancing ICT utilization in Economics education requires sustained government and institutional commitment through the provision of adequate ICT infrastructure, continuous teacher capacity-building programmes, improved funding, reliable electricity and internet services, effective maintenance of ICT facilities, and adequate technical support. Addressing these challenges will strengthen ICT integration, improve instructional effectiveness, and enhance students' learning outcomes in Economics.

### **Educational Implications of the Study**

The educational implications of the findings of this study are summarized as follows:

1. **Availability of ICT Facilities:** The moderate availability of ICT facilities implies that government secondary schools possess only the basic infrastructure required for ICT-supported teaching. There is therefore a need for the government and other stakeholders to provide modern ICT facilities such as interactive whiteboards, educational software, smart televisions, and reliable internet connectivity to promote effective teaching and learning of Economics.
2. **ICT Utilization by Teachers:** The high extent of ICT utilization by Economics teachers indicates a positive disposition toward technology integration. However, the low utilization of educational software, ICT-based classroom assessment, and learner-centred ICT activities suggests the need to encourage teachers to integrate ICT more

comprehensively into instructional delivery to enhance students' participation and learning outcomes.

3. **Teachers' ICT Competence:** The high level of basic ICT competence among Economics teachers implies that they possess the foundational skills required for ICT integration. However, their limited competence in advanced ICT applications highlights the need for regular in-service training, workshops, seminars, and other professional development programmes to strengthen their capacity to utilize emerging educational technologies effectively.
4. **Challenges to ICT Utilization:** The identified challenges, including inadequate ICT facilities, unstable electricity supply, poor internet connectivity, inadequate funding, insufficient teacher training, poor maintenance culture, and lack of technical support personnel, imply that successful ICT integration requires adequate infrastructural facilities, sustained financial investment, and institutional support. Addressing these challenges is essential for maximizing the educational benefits of ICT.
5. **Policy and Educational Planning:** The findings imply that educational policymakers, curriculum planners, and school administrators should formulate and implement policies that promote ICT integration in Economics education through adequate funding, effective maintenance of ICT facilities, continuous teacher capacity building, and regular monitoring of ICT implementation in schools.
6. **Improvement of Students' Learning Outcomes:** Effective utilization of ICT tools has the potential to enhance students' academic achievement, classroom participation, critical thinking, problem-solving skills, and digital literacy. Consequently, strengthening ICT

integration in Economics education will better prepare students for lifelong learning and active participation in a technology-driven society.

### **Limitations of the Study**

The major limitation is the absence of some respondents in the schools due to insecurity situation in Ezeagu L.G.A. The data collected may affect the generalization of these findings.

### **Recommendation**

Based on the findings of this study, the following recommendations are made:

1. The Enugu State Government, through the Ministry of Education and the Post Primary Schools Management Board (PPSMB), should provide government secondary schools in Ezeagu Local Government Area with adequate and up-to-date ICT facilities, particularly interactive whiteboards, educational software, smart televisions, reliable internet facilities, and Wi-Fi connectivity. This will complement the existing basic ICT infrastructure and enhance the effective teaching and learning of Economics.
2. Economics teachers should be encouraged and supported by school administrators to integrate ICT tools more effectively into classroom instruction. Teachers should make greater use of educational software, online instructional resources, ICT-based classroom assessments, and student-centred learning activities to improve students' participation, understanding, and academic achievement in Economics.
3. Regular in-service training programmes, workshops, seminars, and professional development courses should be organized by the Ministry of Education, PPSMB, and educational agencies to improve Economics teachers' competencies in the use of



advanced ICT applications, including educational software, interactive whiteboards, online assessment platforms, and other emerging digital instructional technologies.

4. Government and school authorities should address the major challenges affecting ICT utilization by providing adequate funding for ICT facilities, ensuring a stable electricity supply, improving internet connectivity, employing qualified ICT technical support personnel, and establishing regular maintenance schedules for ICT equipment. These measures will enhance the effective integration and sustainability of ICT in the teaching and learning of Economics.
5. School administrators, educational policymakers, and relevant stakeholders should formulate and implement policies that promote the effective integration of ICT into Economics instruction. Schools should also establish monitoring and evaluation mechanisms to ensure the regular utilization of ICT facilities, while teachers should be motivated through incentives, recognition, and adequate support to sustain the effective use of ICT in classroom instruction.

### **Suggestions For Further Studies**

Areas for future research can include:

1. Comparative study of availability, utilization and constraints of information and communication technologies (ICT) in some selected secondary schools in various local government areas of Nigeria.
2. The effect of ICT Utilization on the Academic Performance of Secondary School Students in Economics and social studies courses.

3. Effects of Teacher attitudes and motivation on the use of ICT in secondary school instruction class.
4. The effect of training programme in the use of ICT on teaching effectiveness and administrative ability among secondary school teachers.
5. Impact of leadership support in implementation of ICT in some secondary schools of Nigeria.

### **Summary of the Study**

This study investigated the utilization of Information and Communication Technology (ICT) tools in the teaching and learning of Economics in government secondary schools in Ezeagu Local Government Area of Enugu State. The study was necessitated by the increasing importance of ICT in enhancing teaching effectiveness and students' learning outcomes, as well as concerns about the level of ICT integration in secondary schools despite various government interventions.

The study sought to determine the availability of ICT tools, the extent to which ICT tools are utilized in the teaching and learning of Economics, the ICT competencies possessed by Economics teachers, the challenges affecting ICT utilization, and the strategies for improving ICT utilization in government secondary schools in Ezeagu Local Government Area. To achieve these objectives, five research questions were formulated to guide the study.

The study adopted a descriptive survey research design. The population of the study comprised Economics teachers and Senior Secondary School students in government secondary schools in Ezeagu Local Government Area of Enugu State. A sample of 200 respondents was selected using

a simple random sampling technique. Two instruments were used for data collection: a structured questionnaire and an observational checklist. The questionnaire was designed using a four-point Likert scale, while the observational checklist was used to ascertain the availability of ICT facilities in the schools. The instruments were validated by experts in Educational Technology, Economics Education, and Measurement and Evaluation. Data collected were analyzed using frequency counts, percentages, mean, and standard deviation. The observational checklist data were analyzed using frequency counts and percentages, while responses from the questionnaire were analyzed using mean and standard deviation, with a criterion mean of 2.50 used for decision-making.

The findings of the study revealed that basic ICT facilities such as desktop computers, laptop computers, computer laboratories, multimedia projectors, internet facilities, printers, scanners, and alternative power supply were available in most government secondary schools in Ezeagu Local Government Area, whereas advanced ICT facilities such as interactive whiteboards, educational software, smart televisions, and Wi-Fi connectivity were largely unavailable.

The study further revealed that ICT tools were utilized to a high extent in the teaching and learning of Economics. However, the use of educational software, ICT-based classroom assessment, and students' active participation in ICT-supported learning activities remained relatively low.

The findings also showed that Economics teachers possessed a high level of basic ICT competencies but demonstrated limited competence in the use of advanced ICT applications, including educational software, interactive whiteboards, and online assessment platforms.

The study further established that inadequate ICT facilities, poor electricity supply, poor internet connectivity, insufficient ICT training, inadequate funding, poor maintenance culture, lack of technical support personnel, large class sizes, and negative attitudes toward ICT were the major challenges affecting the effective utilization of ICT tools in the teaching and learning of Economics.

Finally, the study identified the provision of adequate ICT facilities, regular teacher training, improved funding, stable electricity supply, reliable internet connectivity, employment of ICT support personnel, regular maintenance of ICT facilities, teacher motivation, and stronger institutional support as essential strategies for improving the utilization of ICT tools in the teaching and learning of Economics.

Based on these findings, the study concluded that although ICT utilization in the teaching and learning of Economics has improved in government secondary schools in Ezeagu Local Government Area, greater efforts are still required to provide modern ICT infrastructure, strengthen teachers' competencies in advanced ICT applications, and address the infrastructural and institutional challenges limiting effective ICT integration. Implementing these measures will contribute significantly to improving the quality of Economics education and enhancing students' learning outcomes in government secondary schools.

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## APPENDIX A

Letter to Validators

Department of Social Sciences Education,  
Godfrey Okoye University,  
Thinkers Corner,  
Enugu State.  
10<sup>th</sup> May, 2026

Dear Validator,

### REQUEST FOR VALIDATION OF INSTRUMENT

I am Onyejihe Chioma Queendaline, a fourth-year student of Social Science Education, currently carrying out a study on the **“Utilization of Information and Communication Technology (ICT) Tools in the Teaching and Learning of Economics Questionnaire”**. I will be very delighted for your response to the items in the questionnaire for the successful completion of this research work. Kindly note that all information given will be used only for purpose of this study. Thank you very much as I anticipate your assistance.

Yours faithfully,

**Onyejihe Chioma Queendaline**  
**Researcher**

## APPENDIX B

### LETTER TO THE RESPONDENTS

Department of Social Sciences Education,  
Godfrey Okoye University  
Thinkers Corner,  
PMB 01014  
Enugu State.  
10<sup>th</sup> May, 2026

Dear Respondent,

I am a final year student of the above-named department conducting a research study titled:  
**“Utilization of Information and Communication Technology (ICT) Tools in the Teaching and Learning of Economics Questionnaire”.**

This study is purely for academic purposes and aims to understand how online learning has impacted Social Sciences Education students' academic performance in selected public senior secondary in Ezeagu LGA of Enugu State.

You are kindly requested to respond objectively to the items in the questionnaire attached. All information provided will be treated with the utmost confidentiality and used solely for this research.

Your cooperation is highly valued and appreciated.

Thank you in anticipation of your honest and thoughtful responses.

Yours faithfully,

**Onyejihe Chioma Queendaline**  
**Researcher**

## APPENDIX C

### QUESTIONNAIRE

#### UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) TOOLS IN THE TEACHING AND LEARNING OF ECONOMICS QUESTIONNAIRE (UICTTLEQ).

##### Section A: Demographic Information

Please tick ( ✓ ) as appropriate.

**Gender:** Male ☐ Female ☐

**Age:** 20–29 years ☐ 30–39 years ☐ 40–49 years ☐ 50 years and above ☐

**Highest Educational Qualification:** NCE ☐ B.Ed./B.Sc. (Ed) ☐ M.Ed./M.Sc. ☐ Ph.D. ☐

**Years of Teaching Experience:** 1–5 years ☐ 6–10 years ☐ 11–15 years ☐ Above 15 years ☐

**Type of School:** Public ☐ Private ☐

##### Section B

**Instruction:** Please indicate your level of agreement with each statement using the following scale:

- SA = Strongly Agree (4); A = Agree (3); D = Disagree (2); SD = Strongly Disagree (1)

**CLUSTER A:****To what extent are ICT tools utilized in the teaching and learning of Economics?**

Response Options

VHE = Very High Extent

HE = High Extent

LE = Low Extent

VLE = Very Low Extent

| S/N | Items                                                           | VHE | HE | LE | VLE |
|-----|-----------------------------------------------------------------|-----|----|----|-----|
| 1   | Economics teachers use computers during classroom instruction.  |     |    |    |     |
| 2   | Teachers use multimedia projectors during Economics lessons.    |     |    |    |     |
| 3   | Teachers use internet resources during classroom instruction.   |     |    |    |     |
| 4   | Teachers use PowerPoint presentations while teaching Economics. |     |    |    |     |
| 5   | Students use ICT facilities during Economics lessons.           |     |    |    |     |
| 6   | Teachers use educational software during instruction.           |     |    |    |     |
| 7   | Teachers give ICT-based assignments to students.                |     |    |    |     |
| 8   | Teachers use online instructional materials.                    |     |    |    |     |
| 9   | ICT facilities are used for classroom assessment.               |     |    |    |     |
| 10  | ICT tools are integrated into most Economics lessons.           |     |    |    |     |

**CLUSTER B:**

**To what extent do Economics teachers possess ICT competencies required for effective teaching?**

Response Options

VHE = Very High Extent

HE = High Extent

LE = Low Extent

VLE = Very Low Extent

| S/N | Items                                                                    | VHE | HE | LE | VLE |
|-----|--------------------------------------------------------------------------|-----|----|----|-----|
| 11  | Economics teachers can operate desktop and laptop computers effectively. |     |    |    |     |
| 12  | Economics teachers can prepare lesson notes using Microsoft Word.        |     |    |    |     |
| 13  | Economics teachers can prepare PowerPoint presentations.                 |     |    |    |     |
| 14  | Economics teachers can browse the internet for instructional materials.  |     |    |    |     |
| 15  | Economics teachers can operate multimedia projectors.                    |     |    |    |     |
| 16  | Economics teachers can use educational software.                         |     |    |    |     |
| 17  | Economics teachers can administer online tests and assessments.          |     |    |    |     |
| 18  | Economics teachers can use interactive whiteboards.                      |     |    |    |     |
| 19  | Economics teachers can integrate ICT into Economics lessons.             |     |    |    |     |
| 20  | Economics teachers regularly update their ICT knowledge.                 |     |    |    |     |

**CLUSTER C: What are the challenges affecting ICT utilization in the teaching and learning of Economics?**

Response Options

SA = Strongly Agree

A = Agree

D = Disagree

SD = Strongly Disagree

| S/N | Items                                                              | SA | A | D | SD |
|-----|--------------------------------------------------------------------|----|---|---|----|
| 21  | Inadequate ICT facilities hinder effective teaching of Economics.  |    |   |   |    |
| 22  | Poor electricity supply affects ICT utilization.                   |    |   |   |    |
| 23  | Poor internet connectivity limits ICT usage.                       |    |   |   |    |
| 24  | Insufficient ICT training programmes affect teachers' performance. |    |   |   |    |
| 25  | High cost of ICT facilities affects their utilization.             |    |   |   |    |
| 26  | Poor maintenance of ICT facilities affects their effectiveness.    |    |   |   |    |
| 27  | Inadequate government funding affects ICT integration.             |    |   |   |    |
| 28  | Lack of ICT technical support personnel hinders ICT utilization.   |    |   |   |    |
| 29  | Large class sizes make ICT integration difficult.                  |    |   |   |    |
| 30  | Negative attitude of some teachers affects ICT utilization.        |    |   |   |    |

**CLUSTER D: What strategies can improve the utilization of ICT tools in the teaching and learning of Economics?**

Response Options

SA = Strongly Agree

A = Agree

D = Disagree

SD = Strongly Disagree

| S/N | Items                                                            | SA | A | D | SD |
|-----|------------------------------------------------------------------|----|---|---|----|
| 31  | Government should provide adequate ICT facilities.               |    |   |   |    |
| 32  | Regular ICT training should be organized for teachers.           |    |   |   |    |
| 33  | Government should adequately fund ICT facilities.                |    |   |   |    |
| 34  | Stable electricity supply should be provided in schools.         |    |   |   |    |
| 35  | Reliable internet services should be provided.                   |    |   |   |    |
| 36  | ICT support personnel should be employed.                        |    |   |   |    |
| 37  | Teachers should be encouraged to integrate ICT into instruction. |    |   |   |    |
| 38  | ICT facilities should be regularly maintained.                   |    |   |   |    |
| 39  | Teachers should be motivated through incentives to utilize ICT.  |    |   |   |    |
| 40  | Students should be given greater access to ICT facilities.       |    |   |   |    |

## APPENDIX D

### OBSERVATION CHECKLIST

#### Availability of ICT Tools for Teaching and Learning of Economics in Government Secondary Schools

**Instruction:** Tick (✓) the appropriate column based on the facilities physically observed in each school.

| S/N | ICT Facilities                             | Available (✓) | Not Available (✓) |
|-----|--------------------------------------------|---------------|-------------------|
| 1   | Desktop computers                          |               |                   |
| 2   | Laptop computers                           |               |                   |
| 3   | Computer laboratory                        |               |                   |
| 4   | Multimedia projector                       |               |                   |
| 5   | Internet facilities                        |               |                   |
| 6   | Interactive whiteboard                     |               |                   |
| 7   | Educational software                       |               |                   |
| 8   | Smart television                           |               |                   |
| 9   | Printer                                    |               |                   |
| 10  | Scanner                                    |               |                   |
| 11  | Wi-Fi connectivity                         |               |                   |
| 12  | Alternative power supply (Generator/Solar) |               |                   |

**School Name:** \_\_\_\_\_

**Date of Observation:** \_\_\_\_\_

**Observer's Signature:** \_\_\_\_\_



## APPENDIX E

### VALIDATOR'S COMMENT

#### UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) TOOLS IN THE TEACHING AND LEARNING OF ECONOMICS QUESTIONNAIRE (UICTTLEQ)

I.....have carefully scrutinized the researcher's instrument and have the following comments and further suggestions to make regarding the instrument:

.....

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If the above mentioned corrections are properly amended, I thereby recommend that the instrument should be used by the researcher for the study.

**Name of Validator:** .....

**Signature:** .....

**Institution Address:** .....