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Assessing the Influence of Computer Facility Availability and Utilization on Economics Teaching and Learning Outcomes in Secondary Schools in Udi LGA, Enugu State

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Abstract

This study examines the availability and utilization of computer facilities in the teaching and learning of Economics in secondary schools within Udi Local Government Area of Enugu State, Nigeria. The objectives were to identify available computer facilities, assess the extent of their utilization in teaching Economics, and determine factors constraining effective use. A descriptive survey design was employed, with data collected from 344 Economics students using a researcher-developed questionnaire and checklist. Data were analyzed using percentages and mean scores. The findings indicate that most computer-related facilities are inadequate, with only 30% of schools reporting sufficient computers and very limited access to projectors, electronic whiteboards, and other ICT tools. Utilization of available facilities was generally low, with mean scores below the benchmark of 2.5, except for internet use, which was slightly above moderate. Key constraints to effective utilization included non-specialist teachers, insufficient technical support, lack of maintenance, and limited motivation. The study recommends that schools enhance ICT infrastructure, provide targeted teacher training, and ensure regular maintenance and support. The findings imply that without improved access, training, and support, the potential of ICT to enhance Economics learning will remain largely untapped, potentially limiting students' engagement, comprehension, and readiness for technology-driven environments. These interventions are critical to promoting effective teaching and learning in the subject at the secondary school level.

Keywords: *Computer facilities, Utilization, Economics education, Secondary schools, ICT integration, Teaching and learning, Educational technology, Udi LGA, Nigeria*

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Introduction

The integration of computer facilities into teaching and learning has become a central focus of educational reform globally. Advances in information and communication technology (ICT) have transformed instructional practices by expanding access to digital resources, supporting interactive learning, and enhancing students' analytical and problem-solving skills (UNESCO, 2019; Akpan & Ita, 2021). In developing countries, including Nigeria, the effective use of computer facilities in schools is increasingly viewed as a key driver of educational quality and relevance in a technology-driven global economy.

In Nigeria, secondary education occupies a strategic position in the education system, serving as a bridge between primary and tertiary education and preparing learners for higher studies and the world of work. Economics is a core elective subject at the senior secondary school level, introduced to equip students with knowledge and skills for understanding economic principles, public policies, resource allocation, and rational decision-making in everyday life (Federal Republic of Nigeria [FRN], 2014). Given the abstract and analytical nature of Economics, its effective teaching requires instructional approaches that promote learner engagement, conceptual understanding, and application of knowledge to real-world situations.

Despite the relevance of Economics to national development and individual decision-making, students' performance and interest in the subject at the secondary school level have remained a source of concern. Several studies have linked poor performance in Economics to inadequate instructional resources, overreliance on teacher-centred methods, and limited exposure to innovative teaching strategies that could enhance understanding and motivation (Ajagun, 2018; Idika & Onuoha, 2019). These challenges have prompted increased attention to the role of computer facilities as instructional tools capable of improving teaching effectiveness and learning outcomes in Economics.

Computer facilities play a significant role in contemporary education by enabling access to information, supporting data analysis, enhancing visualisation of concepts, and facilitating interactive and student-centred learning. Research indicates that the use of computers in classroom instruction can improve students' engagement, deepen understanding of complex concepts, and promote critical thinking when appropriately integrated into teaching practices (Akuegwu, 2019; Nwangwu, 2020). In Economics education, computer-based resources such as simulations, digital graphs, online economic data, and multimedia presentations can make abstract concepts more concrete and relatable to learners.

The effectiveness of computer-based instruction, however, depends largely on two critical factors: the availability of computer facilities and their utilization by teachers and students. Availability refers to the presence and accessibility of functional computers, relevant software, internet connectivity, stable power supply, and supportive infrastructure within the school environment. Utilization, on the other hand, concerns the extent to which these facilities are actually employed for instructional purposes during teaching and learning activities (Bamidele, 2018; Ajayi & Ekundayo, 2020). Studies have shown that the mere provision of computer facilities does not automatically translate into improved learning outcomes if teachers lack the skills, confidence, or institutional support needed to use them effectively (Blaskat, 2019; Olatunde & Yusuf, 2021).

In many Nigerian secondary schools, particularly those located in semi-urban and rural areas, challenges related to inadequate computer facilities, irregular electricity supply, limited internet access, and insufficient teacher training continue to hinder effective ICT integration. Empirical evidence from different states in Nigeria reveals that while some schools possess basic computer facilities, their utilization for instructional purposes remains low due to factors such as lack of technical support, insufficient professional development opportunities, and negative or indifferent teacher attitudes towards technology use (Chigano, 2019; Nihuka, 2020; Adeyemi & Olaleye, 2022).

In Enugu State, and specifically in Udi Local Government Area, secondary schools face similar constraints that may limit the effective use of computer facilities in the teaching and learning of Economics. The disparity between schools in terms of access to ICT infrastructure raises concerns about equity and instructional quality. Where

computer facilities are available, there is limited empirical evidence on how frequently and effectively they are utilized by Economics teachers to support lesson delivery and enhance students' learning experiences.

Given the increasing emphasis on technology-enhanced learning and the persistent challenges associated with teaching Economics in secondary schools, there is a need for context-specific studies that examine both the availability and utilization of computer facilities at the local level. Such evidence is essential for informing educational planning, guiding policy implementation, and improving classroom practices. It is against this background that this study investigates the availability and utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi Local Government Area of Enugu State.

Statement of the Problem

The effective teaching and learning of Economics in secondary schools increasingly require the integration of computer facilities to support interactive instruction, enhance conceptual understanding, and develop students' digital competencies. Ideally, secondary schools should be equipped with adequate and functional computer facilities, supported by stable infrastructure and competent teachers who can integrate technology meaningfully into Economics instruction. Such conditions would promote student engagement, improve learning outcomes, and prepare learners for participation in a technology-driven society.

However, evidence from many public secondary schools in Nigeria suggests that this ideal situation is rarely achieved. Many schools continue to experience inadequate availability of computer facilities, characterised by insufficient numbers of computers, obsolete equipment, poorly maintained laboratories, and limited access to internet services. In addition to infrastructural challenges, teachers often lack the necessary training and technical support required to utilize available computer facilities effectively for instructional purposes. As a result, the integration of computer-based resources into the teaching and learning of Economics remains limited.

In Udi Local Government Area of Enugu State, these challenges raise concerns about the extent to which computer facilities are available in secondary schools and how effectively they are utilized in Economics classrooms. Where computer facilities exist, there is limited empirical evidence on their instructional use, particularly in relation to lesson delivery, student engagement, and learning support in Economics. The continued reliance on traditional teaching methods, coupled with inadequate access to and use of computer facilities, may contribute to poor learning experiences and unsatisfactory academic outcomes in the subject.

If these challenges remain unaddressed, students may be deprived of opportunities to develop essential digital literacy skills and to benefit from technology-enhanced learning environments that support deeper understanding of economic concepts. This situation may widen educational disparities between schools with adequate ICT resources and those without, thereby undermining instructional quality and equity in education. The absence of context-specific data on the availability and utilization of computer facilities in Economics instruction further limits informed decision-making by educators and policymakers.

It is against this backdrop that this study seeks to investigate the availability and utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi Local Government Area of Enugu State, with the aim of providing empirical evidence that can inform policy, improve instructional practices, and enhance students' learning outcomes.

Purpose of the Study

The purpose of this study is to examine the availability and utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi Local Government Area of Enugu State.

Objectives of the Study

The specific objectives of the study are to:

i. Identify the computer facilities available for the teaching and learning of Economics in secondary schools in Udi Local Government Area.
ii. Determine the extent to which computer facilities are utilized in the teaching of Economics in secondary schools in Udi Local Government Area.
iii. Examine the factors that constrain the effective utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi Local Government Area.

Research Questions

The following research questions guided this study.

i. What computer facilities are available for the teaching and learning of Economics in secondary schools in Udi Local Government Area of Enugu State?
ii. To what extent are available computer facilities utilized by teachers in the teaching of Economics in secondary schools in Udi Local Government Area of Enugu State?
iii. What factors constrain the effective utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi Local Government Area of Enugu State?

Review of Related Literature

Computer-Based Education in Economics

Computer-based education (CBE) refers to the use of digital tools and technologies, including computers, software, and the internet, to support teaching and learning processes. In the context of teaching economics in secondary schools, CBE shifts the learning environment from teacher-centered to learner-centered, allowing students to actively engage with content through simulations, interactive exercises, and multimedia presentations (Yusuf, Bashir, & Dare, 2013; Onwuagboke & Ukegbu, 2010). According to Ugwu and Oboegbulem (2011), integrating information and communication technologies (ICT) in teaching provides opportunities for students to develop not only subject-specific knowledge but also critical thinking, problem-solving, and digital literacy skills that are essential in a modern economy. Akuegwu (2011) also highlights that tools such as computers, multimedia projectors, and digital learning resources enhance students' understanding of abstract concepts like economic growth and resource allocation by making them more visual and interactive.

The importance of CBE in economics is further reinforced by its potential to improve students' academic performance and motivation. Studies show that when teachers effectively integrate computer-based tools, students are more engaged, retain knowledge longer, and can apply concepts in practical contexts (Adeyemi & Olayele, 2010; Teo, 2015). However, the effectiveness of CBE depends on both the availability of technology and the ability of teachers to utilize these tools effectively (Pynoo, 2011; Prokopiadou, 2012). Therefore, understanding the concept of computer-based education in economics is critical for exploring how ICT resources can be leveraged to enhance learning outcomes in secondary schools.

Computer Facilities Available for Teaching and Learning Economics

The availability and effective use of computer facilities are essential for improving the quality of teaching and learning economics in secondary schools. High-quality education increasingly relies on access to modern ICT resources, which facilitate interactive and engaging learning experiences for both teachers and students (Okeke, 2013). Computers remain a central educational technology, supporting instructional delivery, lesson visualization, and student-centered learning approaches.

The success of computer-based instruction in economics largely depends on the accessibility and functionality of computer facilities. Teachers must adapt to emerging technologies, develop relevant skills, and become proficient in using digital tools to enhance classroom instruction (Pynoo, 2011). Without adequate skills and confidence in ICT use, the integration of computers into teaching may be ineffective, limiting their potential to improve student learning outcomes (Prokopiadou, 2012).

Several computer-based resources are commonly utilized in teaching economics:

Microsoft PowerPoint – Enables teachers to create dynamic presentations incorporating sound, animation, charts, and videos, helping students visualize economic concepts such as economic growth and market structures (Dongre & Jafri, 2002).

Excel Spreadsheets – Useful for plotting graphs, generating tables, and analyzing data, which aids in explaining production processes, cost functions, and statistical analyses in economics (Okeke, 2013).

Computer-Assisted Instruction (CAI) – Integrates drills, simulations, and interactive tutorials, supplementing traditional teaching methods and improving students' understanding and retention (Dongre & Jafri, 2002).

Research indicates that the presence of modern computer facilities motivates students, increases engagement, and enhances learning outcomes. Effective utilization of these resources enables students to actively participate in lessons, conduct independent research, and develop problem-solving skills (Teo, 2015). Furthermore, well-equipped computer labs and access to personal devices allow students to practice concepts outside the classroom, reinforcing their learning.

Therefore, the availability of computer facilities is critical for teaching and learning economics. Properly equipped classrooms, combined with teachers' ability to leverage these resources, ensure that students benefit fully from interactive, technology-enhanced education.

Utilization of Computer Facilities in Teaching Economics

The utilization of computer facilities in teaching economics refers to the strategic and effective use of available ICT resources to enhance the teaching and learning process. Utilization goes beyond mere availability; it involves leveraging technology to deliver lessons more efficiently, engage students, and achieve curriculum objectives (Amalu, 2015). In the context of secondary school economics education, effective utilization ensures that computer-based resources are integrated into lesson planning, instructional delivery, and assessment.

Ajayi (2008) emphasized that utilizing ICT facilities in education requires deliberate strategies, including systematic feedback, computer-based simulations, video and audio conferencing, internet-based resources, and computer-assisted instruction. These approaches allow teachers to present economic concepts in ways that are interactive, practical, and more comprehensible for students. For instance, using multimedia presentations and simulations helps students visualize abstract concepts like inflation, supply-demand equilibrium, and national income.

Effective utilization also requires teachers to possess adequate skills, knowledge, and confidence in ICT use. A teacher who can skillfully navigate software applications, digital tools, and online resources can create a learning environment that motivates students, encourages participation, and fosters independent research skills (Yusuf, 2005). Conversely, underutilization of computer facilities, even when available, limits the potential benefits of ICT integration in economics education.

Moreover, the integration of computer-based tools allows for differentiated instruction, enabling teachers to cater to varying student abilities. For example, Excel spreadsheets and simulation software allow students to manipulate data, test economic models, and observe outcomes, promoting critical thinking and problem-solving skills. Studies have shown that students perform better when computer facilities are actively utilized as part of lesson delivery, compared to traditional teaching methods alone (Amalu, 2015; Teo, 2015).

Therefore, the utilization of computer facilities in teaching economics is critical to improving instructional effectiveness, student engagement, and learning outcomes. Teachers' proficiency in using ICT tools and their ability to integrate these resources into lessons significantly influence the success of computer-based education in secondary schools.

Constraints to Utilization of Computer-Based Facilities in Teaching and Learning

Despite the significant benefits of computer-based facilities in teaching economics, several constraints hinder their effective utilization in secondary schools. These challenges can be categorized into infrastructural, human resource, financial, and socio-environmental factors.

Firstly, inadequate infrastructure remains a major barrier. Many schools lack sufficient computers, functional internet connectivity, and other ICT resources, which limits the effective implementation of computer-assisted instruction (Abdul-Reheem, 2011; Basher & Dare, 2013). Frequent power outages further exacerbate this problem, making it difficult for teachers and students to rely on ICT consistently (Teo, 2015).

Secondly, human resource constraints significantly affect utilization. A shortage of trained and competent teachers who can effectively use ICT tools in the classroom limits computer-based teaching (Yusuf, 2012; Onasanya, 2010). Even where teachers have positive attitudes toward technology, many lack practical skills in integrating computer resources into lesson delivery. Continuous professional development is often inadequate, leaving teachers underprepared to maximize the potential of ICT in teaching economics.

Financial constraints also impede utilization. High costs of computers, software, and maintenance make it difficult for schools, particularly those in low-income communities, to provide adequate ICT facilities (Mahmood, 2014). The importation of ICT equipment attracts high tariffs, further inflating costs and limiting access for both schools and students.

Additionally, socio-environmental factors pose challenges. Moral concerns, such as students misusing internet access for non-educational purposes, and environmental issues, including flood-prone or unsafe school locations, affect the regular and safe use of computer facilities (Langat, 2015). Poor maintenance of existing ICT infrastructure by school administrators and students also contributes to underutilization (Teo, 2015).

Hence, the effective utilization of computer-based facilities in teaching economics is hindered by a combination of infrastructural, human, financial, and socio-environmental constraints. Addressing these barriers is crucial to ensuring that ICT integration translates into improved teaching and learning outcomes in secondary school economics.

Theoretical Framework

This study is anchored on the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006, updated 2019). The TPACK framework provides a modern lens for understanding how teachers can effectively integrate technology into their teaching while maintaining strong pedagogical practices and subject matter knowledge. According to TPACK, effective teaching with technology occurs at the intersection of three domains: content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). In the context of this study, content knowledge refers to the teachers' mastery of economics concepts, pedagogical knowledge refers to the strategies used to facilitate students' learning, and technological knowledge refers to the teachers' ability to utilize computer facilities and ICT tools in the classroom. The framework emphasizes that technology should not be used in isolation but integrated thoughtfully with pedagogy to enhance learning outcomes. Applying TPACK to the teaching of economics in secondary schools highlights how computer-based instructional tools, such as PowerPoint presentations, spreadsheets, and interactive software, can make lessons more engaging, interactive, and learner-centered. This theoretical lens is particularly relevant to the study as it explains how the availability and utilization of computer facilities can positively influence students' understanding and performance in economics by enabling teachers to blend content knowledge, pedagogy, and technology effectively (Voogt et al., 2013; Koehler et al., 2019).

Empirical Review

Empirical studies on the availability and utilization of computer-based facilities in secondary schools have consistently highlighted the gaps in infrastructure, teacher competence, and effective usage. Yusuf, Maina, and Dare (2013) investigated the accessibility, use, and management of computer facilities in English language instruction in Kaduna State. Using a descriptive survey design, they found that most schools had limited ICT resources, and teachers lacked prior experience in utilizing these facilities, highlighting the need for capacity-building initiatives. The study emphasizes that without adequate training, the availability of ICT resources alone does not enhance teaching effectiveness.

Similarly, Adelabu and Adu (2014) explored the accessibility and utilization of ICT in teaching biological science in Oyo State. Their findings revealed insufficient ICT resources in schools and a lack of teacher proficiency in integrating technology into instruction. This study underscores that teacher training is a critical factor influencing effective ICT use in secondary school education.

Amuchie (2015) conducted a study in Taraba State to examine ICT utilization in secondary schools. The study reported very low access and utilization of ICT facilities, with barriers such as high cost, erratic power supply, and inadequate teacher training. This aligns with Eze and Aja's (2014) findings in Ebonyi State, where ICT resources were underutilized due to non-functional equipment and lack of operator skills, emphasizing the need for sustainable maintenance and training programs.

Ugwoke (2011) investigated the extent of ICT use in Nigerian classrooms and found that limited availability and inadequate teacher and student competence significantly restricted effective utilization. Nworgu (2015), focusing on computer education in Anambra State, also reported that despite the availability of resources, teachers rarely used ICT in teaching, reinforcing the pattern of underutilization across different states.

Olajuni, Agbelusi, and Aladesote (2013) explored ICT usage and challenges in Ondo State secondary schools. They reported that schools lacked adequate ICT resources, and teachers faced challenges such as insufficient infrastructure and low computer literacy, which hindered effective integration into teaching. Similarly, Yadav (2015) assessed secondary school teachers' perceptions of ICT use in Haryana, India, and observed that urban teachers had more favorable attitudes toward ICT adoption than rural teachers, highlighting how location and context influence ICT utilization.

Mathevula and Uwizeyimana (2014) investigated ICT integration challenges in rural secondary schools in South Africa. They found that the availability of ICT resources was limited, and even where training existed, it had minimal impact on teachers' confidence and ability to integrate technology into lessons. This finding aligns with Kabiru and Sakiyo (2013), who studied ICT teachers' competence in North Eastern Nigeria and reported that teacher proficiency, resource limitations, and infrastructural deficits were major barriers to effective ICT curriculum implementation.

Collectively, these studies indicate that while ICT resources are recognized as valuable tools for enhancing teaching and learning, their availability does not automatically translate into effective utilization. Common barriers include inadequate training, poor infrastructure, limited access to functional equipment, and contextual factors such as urban–rural disparities. For the current study, these findings underscore the importance of not only assessing the presence of computer facilities in secondary schools in Udi but also understanding the barriers that prevent teachers from using them effectively in teaching economics.

Methodology

Research Design

The study adopted a descriptive survey research design. This design was considered appropriate because it enabled the researcher to systematically collect data on the availability, utilization, and constraints associated with the use of computer-based facilities in the teaching and learning of Economics in secondary schools, without manipulating any variables (Nworgu, 2015).

Area of the Study

The study was carried out in Udi Local Government Area (LGA) of Enugu State, Nigeria. The area comprises both urban and rural secondary schools, making it suitable for examining variations in the availability and utilization of computer-based facilities for teaching Economics.

Population of the Study

The population of the study comprised all Economics students in the 17 public secondary schools in Udi Local Government Area of Enugu State. A total of 2,443 students offering Economics constituted the population, based on records obtained from the Post Primary Schools Management Board (PPSMB), 2024.

Sample Size and Sampling Technique

A sample size of 344 Economics students was determined using the Taro Yamane formula at a 0.05 level of precision. A simple random sampling technique was employed to select the respondents from the sampled secondary schools to ensure that each student had an equal chance of being selected for the study.

Formula (Taro Yamane):

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size
N = population size
e = level of precision (sampling error = 0.05)

$$n = \frac{2443}{1+2443(0.05)^2} = \frac{2433}{1+2443(0.0025)} = \frac{2443}{1 + 6.1075} = \frac{2443}{7.1075} = \mathbf{344}$$

Instrument for Data Collection

Data were collected using a researcher-developed instrument titled Computer Availability and Utilization Instrument (CAUI). The instrument consisted of two sections:

Section A elicited respondents' demographic information.

Section B contained items grouped into three clusters corresponding to the research questions:

i. availability of computer-based facilities,
ii. extent of utilization of computer facilities in teaching and learning Economics, and
iii. constraints to the effective utilization of computer facilities.

A checklist format was used to collect data on the availability of computer-based facilities, while a four-point Likert scale was used to measure the extent of utilization and constraints.

Items relating to utilization and constraints were answered by students based on their classroom experiences and observations of Economics teachers' instructional practices.

Validity of the Instrument

The instrument was face-validated by experts in curriculum studies and educational measurement and evaluation. Their comments and suggestions were used to refine the instrument and ensure clarity, relevance, and suitability of the items before final administration.

Reliability of the Instrument

The reliability of the instrument was established through a pilot study conducted outside the study area. Data obtained were analyzed using Cronbach's Alpha, which yielded a reliability coefficient of 0.81, indicating a high level of internal consistency and confirming the instrument's suitability for the study.

Method of Data Collection

The instrument was administered to the sampled students with the assistance of trained research assistants. Respondents were adequately briefed on the purpose of the study and provided with clear instructions to ensure accurate responses.

Method of Data Analysis

Data collected were analyzed using descriptive statistics with SPSS (version 24.0). Percentages were used to analyze data on the availability of computer-based facilities. Mean scores were used to determine the extent of utilization and constraints to utilization. A benchmark mean of 2.50 was adopted for decision-making, with mean values equal to or above 2.50 regarded as high extent, while mean values below 2.50 were regarded as low extent.

Likert Scale:

Very Great Extent (VGE) = 4
Great Extent (GE) = 3
Low Extent (LE) = 2
Very Low Extent (VLE) = 1

Data Presentation and Analysis

This section presents the findings of the study in line with the research questions. Descriptive statistics, specifically percentages and mean scores, were used to analyze the data. A benchmark mean of 2.50 was applied to assess the extent of utilization and constraints.

Research Question One:

What computer facilities are available for teaching Economics in secondary schools in Udi Local Government Area?

Table 1: **Availability of Computer Facilities for Teaching Economics in Secondary Schools in Udi LGA**

S/N	*Items*	*% Available*	*Decision*
1	Computers	30	Not Adequate
2	Scanners	15	Not Adequate
3	Printers	10	Not Adequate
4	Projectors	0	Not Adequate
5	Electronic whiteboards	0	Not Adequate
6	Digital cameras	0	Not Adequate

7	Electronic storage devices	20	Not Adequate
8	Internet facilities	10	Not Adequate
9	DVDs	10	Not Adequate
10	Microphones	5	Not Adequate
11	Radio	0	Not Adequate
12	Film strip projectors	0	Not Adequate

Source: Field Survey, 2025

Table 1 shows that the availability of computer facilities for teaching Economics in secondary schools in Udi LGA is generally low. Only **30%** of respondents indicated the availability of computers, while electronic storage devices accounted for **20%**. Other facilities such as scanners, printers, internet facilities, DVDs, and microphones recorded availability percentages ranging between **5% and 15%**. Facilities such as projectors, electronic whiteboards, digital cameras, radios, and film strip projectors were completely unavailable.

Based on the decision rule adopted for this study, all listed facilities were considered not adequate. This finding indicates that secondary schools in Udi LGA lack the necessary computer-based facilities required for effective teaching and learning of Economics.

Research Question Two:

To what extent do teachers and students utilize available computer facilities for teaching and learning Economics in secondary schools in Udi LGA?

Table 2: Mean Ratings on the Extent of Utilization of Computer Facilities

S/N	*Items*	*Mean (M)*	*Decision*
1	Use of computers in teaching Economics	2.28	Low Extent
2	Use of projectors in teaching Economics	2.38	Low Extent
3	Use of whiteboard in teaching Economics	2.28	Low Extent
4	Use of videos in teaching Economics	2.40	Low Extent
5	Use of radio in teaching Economics	2.08	Low Extent
6	Use of internet facilities for teaching-related activities	2.51	High Extent
7	Use of computer facilities by Economics teachers	2.47	Low Extent
8	Use of microphones in teaching Economics	2.19	Low Extent

Benchmark Mean = 2.50

Source: Field Survey, 2025

Table 2 indicates that the utilization of computer facilities in the teaching and learning of Economics in secondary schools in Udi LGA is generally low. Most items recorded mean values below the benchmark mean of 2.50.

Specifically, the use of computers, projectors, whiteboards, videos, radios, and microphones all fell within the low extent category.

Only the use of internet facilities recorded a mean score slightly above the benchmark (M = 2.51), indicating a moderate level of utilization, mainly for searching information and communication-related activities. Overall, the findings suggest that available computer facilities are not optimally utilized in the teaching and learning of Economics.

Research Question Three:

What factors constrain the effective utilization of computer facilities by Economics teachers in secondary schools in Udi LGA?

Table 3: Mean Ratings on Constraints to the Utilization of Computer Facilities

S/N	*Constraints*	*Mean (M)*	*Decision*
1	Use of non-specialist teachers	2.38	Low Extent
2	Insufficient time allocation	2.37	Low Extent
3	Lack of motivation/financial incentives	2.43	Low Extent
4	Lack of internet connectivity	2.47	Low Extent
5	Teachers' negative attitude	2.37	Low Extent
6	Insufficient technical support	2.46	Low Extent
7	Use of obsolete teaching facilities	2.22	Low Extent
8	Poor maintenance of computer facilities	2.38	Low Extent
9	Lack of teachers' interest in modern facilities	2.19	Low Extent

Benchmark Mean = 2.50
Source: Field Survey, 2025

Table 3 reveals that all identified factors recorded mean values below the benchmark mean of 2.50, indicating that respondents perceived these factors as constraints to the utilization of computer facilities to a low extent. However, factors such as lack of internet connectivity, insufficient technical support, and lack of motivation recorded relatively higher mean values compared to others, suggesting that they remain notable challenges affecting effective utilization.

Hence, the findings indicate that although constraints exist, the primary issue affecting the integration of computer facilities in teaching Economics is the inadequate availability of facilities, rather than utilization challenges alone.

Discussion of Findings

This section discusses the findings of the study in relation to the research questions and existing empirical evidence on the use of computer-based facilities in secondary school teaching.

Availability of Computer Facilities for Teaching Economics

The findings revealed that computer-based facilities for teaching Economics in secondary schools in Udi Local Government Area are largely inadequate. Apart from computers, which recorded a low availability rate, most other facilities such as projectors, electronic whiteboards, internet facilities, scanners, printers, and audio-visual tools were either sparsely available or completely absent. This indicates that schools in the study area lack the basic technological infrastructure required to support effective computer-assisted instruction in Economics.

This finding aligns with earlier studies conducted in Nigeria and other developing contexts, which reported widespread inadequacy of ICT facilities in secondary schools (Yusuf, Maina & Dare, 2013; Adelabu & Adu, 2014; Amuchie, 2015). The persistent shortage of instructional technologies suggests that efforts aimed at integrating computer-based learning into secondary education have not been fully realized at the grassroots level.

Utilization of Computer Facilities in Teaching and Learning Economics

Results further showed that the extent of utilization of available computer facilities is generally low, as most items recorded mean scores below the benchmark of 2.50. Teachers' use of computers, projectors, videos, microphones, and other instructional technologies in Economics lessons was found to be minimal. Only internet facilities recorded a slightly higher level of utilization, largely for information searching and communication-related purposes rather than structured instructional use.

This outcome is consistent with previous studies which found that even when ICT facilities are available, they are often underutilized in classroom instruction (Ajayi & Ekundayo, 2009; Eze & Aja, 2014; Nworgu, 2015). The findings suggest that limited availability, combined with inadequate integration of technology into instructional practices, continues to hinder the effective use of computer-based facilities in teaching Economics.

Constraints to the Effective Utilization of Computer Facilities

The study also identified several factors constraining the effective utilization of computer facilities, including insufficient technical support, lack of internet connectivity, inadequate motivation of teachers, poor maintenance of facilities, and the use of obsolete instructional tools. Although these constraints were rated to a low extent based on the benchmark mean, their cumulative effect remains significant in limiting technology integration in Economics instruction.

These findings corroborate earlier research that identified infrastructural challenges, limited technical support, and inadequate teacher motivation as major barriers to ICT utilization in secondary schools (Kabiru & Sakiyo, 2013; Olajuni, Agbelusi & Aladesote, 2013; Mathevula & Uwizeyimana, 2014). The results indicate that addressing availability alone may not be sufficient unless complementary measures such as technical support, maintenance, and teacher capacity development are also strengthened.

Implications of the Findings

The findings of this study underscore the need for improved provision and strategic utilization of computer-based facilities in secondary schools. Without adequate resources and supportive conditions, the integration of technology into Economics teaching remains largely theoretical. Enhancing access to relevant facilities and supporting teachers in their effective use is essential for improving instructional delivery and promoting meaningful learning outcomes in Economics.

Conclusion

The study found that the availability and utilization of computer-based facilities for teaching Economics in secondary schools in Udi LGA are generally inadequate. While some resources such as computers and internet facilities exist, most technological tools like projectors, electronic whiteboards, and audio-visual equipment—are either scarce or completely absent. Even where facilities are available, their utilization by teachers and students remains low, with several constraints including insufficient technical support, lack of maintenance, and limited teacher motivation—further hindering effective integration.

These findings highlight that the effective incorporation of ICT into secondary school Economics teaching is not solely a matter of resource provision. Successful integration also depends on addressing infrastructural gaps, enhancing teacher capacity, and creating an enabling environment that supports consistent and meaningful use of available technology.

Recommendations

Based on the findings, the following measures are recommended to improve the teaching and learning of Economics using computer-based facilities in secondary schools in Udi Local Government Area:

i. To ensure that Economics teachers and students have access to modern teaching tools, schools should be equipped with sufficient computers, projectors, electronic whiteboards, and other ICT resources to meet instructional demands. Regular maintenance and technical support should also be ensured to prevent equipment downtime.
ii. Regular training, workshops and professional development programs should be provided to Economics teachers to enhance their skills and confidence in using ICT for instructional purposes. Additionally, teachers can be incentivized through recognition or rewards to encourage effective integration of technology into their teaching practices.
iii. Educational authorities should enforce policies that promote the effective integration of ICT in schools, ensuring both urban and rural schools benefit from technological advancements. This includes providing technical and administrative support to overcome factors that constrain the utilization of computer facilities in teaching and learning.

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