



## LECTURERS' PERCEPTIONS OF UNDERGRADUATES' ENGAGEMENT WITH INFORMATION AND COMMUNICATION TECHNOLOGY AT FEDERAL UNIVERSITY OYE-EKITI

BY

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### ABSTRACT

*This study investigated lecturers' perception of tertiary education students' engagement in Information and Communication Technology (ICT) at Federal University, Oye-Ekiti. The study focused on the perceived effectiveness of ICT tools, the challenges faced in integrating these tools into teaching and the extent of students' engagement in ICT within and outside the classroom. A descriptive survey research design was adopted. The population for the study consisted of lecturers of Federal University, Oye-Ekiti from which a sample of 250 participants were randomly selected. Data were collected using structured questionnaire and were analysed using descriptive statistics. Findings revealed that lecturers generally perceived ICT as a valuable tool for enhancing instruction delivery and students learning. Several challenges such as poor internet facility, inadequate ICT facilities, inconsistent power supply among others were identified. The study also found that students actively engaged with ICT tools for academic purposes within and outside the classroom. It was concluded that ICT integration in higher education is beneficial and accepted by lecturers, overcoming infrastructural and institutional barriers is essential for maximising its impact. It was recommended that university administrators and policy makers should invest in ICT infrastructure, provide consistent training for staff and formulate clear policies to support effective ICT integration.*

Keywords: Information and Communication Technology (ICT), Teachers, Students, Perception.

### Introduction:

The integration of Information and Communication Technology (ICT) in education has become a crucial development in modern educational systems worldwide, which can transform the way teaching and learning occurs. Over the years, there has been a shift from the teacher-centred method of teaching to more of student-centred teaching methods. This is facilitated by the introduction of various innovative ICT tools and platforms. This shift has been observed to enhance students' engagement, facilitate better learning outcomes and enhanced access to educational resources especially the incorporation of ICT in tertiary education which has garnered significant attention from education, researchers and policy makers who aim to utilize technology to improve teaching and learning practices.

Akinyemi (2014) asserted that ICT refers to the use of digital tools such as computers,

internet, multimedia resources and mobile technologies to support teaching, learning and communication within educational settings. The potential of information and communication technology to enhance the learning experience is immense, providing students with access to vast amount of information, opportunities for collaborative learning and the ability to interact with instructions and peers in innovative ways. He further opined that ICT fosters the development of critical skills, such as problem solving, digital literacy and critical thinking which are vital in the increasingly globalised and technology-driven workforce.

ICT covers all types of computers and communication equipment and software used to create, design, store, transmit, interpret and manipulate information in its various ways. ICT originated from humble beginnings which include Abacus, many other forms of

ICT has been invented in recent years that personal computers, laptops, tablets, mobile phones, among others became popular. Information from these tools is generated, shared and must also be digital (Akinyemi 2014).

Ayo-Ogunlusi (2019) revealed that ICT will be an important part of education for the next generation because of its advantage which included; helping in facilitating the communication between the teachers and students by keeping the students updated and enhancing teachers' capacity and ability to foster good interaction between the teacher and the students through the use of e-learning, e-mail, web-based learning among others. ICT has become very powerful media for interactive participation of experts and learners and it reaches those that could have been unreachable. These new technologies have the potential to improve education across the curriculum and deliver opportunities for efficient student teacher communication in ways that are not possible before.

Teo (2014) and Ally (2016) asserted that the success of ICT adoption is significantly influenced by teachers' perspectives and engagement with technology. While some educators recognise the value of ICT in enhancing teaching and learning, others face barriers that hinder their ability to effectively integrate ICT into their teaching methods. Challenges such as inadequate infrastructure, lack of technical expertise and insufficient professional development opportunities can limit the potential impact of ICT on teaching and learning while Agbo et al;(2023), opined that teachers' perception of ICT is necessary because it will help to find out if they are favourably disposed towards it or otherwise because they are the curriculum content implementers. The perception of teachers on the use of ICT determines the technology adoption and acceptance.

Tella et al. (2025) argued that ICT not only enhances the quality of education but also prepares students for the demands of a technology-driven workforce. By incorporating ICT into academic programs, universities aim to equip students with the skills necessary to succeed in modern professional environments where digital competence is essential, and that teachers' perception on the integration

of ICT is vital for understanding how technology is adopted in the classroom.

Bandle (2016) asserted that teachers' perception of ICT plays a critical role in determining the extent to which technology is embraced in the classroom. Studies have shown that teachers who are open to the use of ICT tend to create more engaging and interactive learning environments, ultimately benefiting students' learning experiences. Moreso, teachers who are reluctant to use technology or feel unprepared to do so may struggle to integrate ICT into their teaching even when the infrastructure are available. Okogie in Agbo et al; (2023) revealed that many lecturers face significant challenges in adopting ICT in the Nigerian universities.

These challenges range from limited access to reliable internet and modern computing equipment to lack of training and technical support. As a result, some lecturers remain sceptical about the impact of ICT on student learning, while others are simply unwilling or unable to incorporate it into their teaching practices. This pattern has created a divide among institutions. On one end, some universities have made noticeable progress in integrating ICT into their curricula. These universities have introduced e-learning platforms, conducted ICT training for staff and invested in digital infrastructure. Their efforts indicate a positive shift towards digital education, aligning with global standards and improving students' digital literacy. On the other end, many universities reflect the broader national trend of inconsistent and delayed ICT integration, while some departments and individual lecturers have embraced digital tools, despite the institutional efforts remain fragmented. The research aims to explore the dynamics from the teachers' perception, focusing on how they perceive students' engagement in ICT at the Federal University, in Oye-Ekiti.

### **Statement of the Problem**

Information and Communication Technology (ICT) has become an indispensable component

of higher education, transforming the way teaching and learning are conducted. The increasing availability of digital technologies such as computers, smartphones, educational software and internet-based resources has created new opportunities for students to actively engage in the learning process. ICT has the potential to improve access to educational materials, facilitate collaboration, enhance communication between teachers and students and also promote independent learning. Consequently, higher education institutions have continued to invest in ICT facilities to support quality teaching and learning.

Despite these developments, evidence reveals that the level and quality of students' engagement with ICT vary considerably across tertiary institutions. While some students effectively utilize ICT for academic activities such as research, online learning, assignment preparation, and collaborative learning, others primarily use these technologies for non-academic purposes, including social networking, entertainment, and gaming. Factors such as inadequate ICT facilities, poor internet connectivity, limited digital literacy, lack of institutional support, and irregular electricity supply may also hinder meaningful engagement with ICT.

Teachers, as key stakeholders in the educational process, are in a unique position to observe students' patterns of ICT use and engage and evaluate how these technologies influence learning outcomes. Their perception can provide valuable insights into the extent to which students engage with ICT for educational purposes, the challenges they encounter, and the effectiveness of current ICT integration Strategies within tertiary institutions. However, there is limited empirical evidence on teachers' perception regarding students' engagement with ICT, particularly within many tertiary institutions in developing countries. The lack of adequate information on teachers' perceptions makes it difficult for educational administrators and policymakers to design appropriate

interventions that encourage effective and productive use of ICT among students. If students are not meaningfully engaged with ICT for learning, the significant investments made in educational technologies may not yield the expected improvements in teaching quality, academic performance, and graduate employability.

It is against this background that this study seeks to investigate teachers' perception of tertiary education students' engagement with ICT. Specifically, the study aims to investigate how teachers perceive students' use of ICT for academic purposes.

### **Objective of the Study**

The objective of the study is as follows:

1. To investigate teachers' perceptions of tertiary education students' engagement with information and communication technology.
2. To identify the factors influencing the adoption and use of ICT in teaching and learning.
3. To assess the role of ICT in fostering student engagement.

### **Research Questions**

The following research questions were raised to guide this study

1. What are the perceptions of teachers regarding the effectiveness of ICT tools in enhancing students' learning outcomes?
2. What are the challenges faced by teachers in integrating ICT into their teaching practices?
3. To what extent do students engage with ICT both inside and outside the classroom?

### **Literature Review**

#### **Conceptual Review**

Information and Communication Technology (ICT) encompasses a wide range of digital tools used to access, manage, and communicate information. These tools include computers, internet, mobile phones, and various software applications that support educational processes. Ogunleye et al. (2021) highlight ICT's transformative role in

education by facilitating access to learning materials, enhancing communications, and improving educational outcomes. The integration of ICT into educational settings enables more personalised, flexible, and engaging learning experiences, especially within tertiary institutions, where technology is increasingly seen as a vital component for modern education. Student engagement refers to the level of participation, enthusiasm, and involvement that students show during the educational experience.

ICT in education refers to the use of digital technologies, communication tools, and computer-based systems to support teaching, learning, research, assessments, and educational administration. It encompasses a broad range of technologies used for teaching and learning, UNESCO (2023). Koehler et al. (2024) opined that ICT has transformed education by shifting the traditional teacher-centred approach to a more learner-centred model, where students actively participate in constructing knowledge through inquiry, collaboration, critical thinking, problem-solving, among others, while the teacher only serves as a facilitator.

The integration of ICT into education has significantly improved the quality and accessibility of teaching and learning. According to UNESCO (2023), teachers can employ multimedia presentations, simulations, animations, virtual laboratories, online learning platforms, among others, to teach abstract concepts more effectively.

Moreso, ICT promotes flexible and lifelong learning by enabling students to access learning materials anytime and anywhere through online platforms such as Moodle, Google Classrooms, etc., which can allow teachers to upload course materials, administer tests, and provide feedback. This flexibility became particularly important during the COVID-19 pandemic, when many educational institutions relied heavily on online technologies to ensure continuity of education. ICT enhances communication and collaboration among students, teachers, and educational administrators. The successful integration of ICT into education depends on several factors such as availability of technological infrastructure, reliable electricity, internet connectivity, teachers' competence,

institutional support, and government policies, among others.

### **Empirical Review**

The role of ICT in education has become increasingly significant as many universities around the world are turning to digital tools to enhance learning experiences. Teachers' perception of ICT, as well as their attitudes towards its usage, greatly influence how effectively students engage with ICT tools in the learning environment.

A considerable body of research has shown that teachers' perceptions are critical in determining the degree to which ICT is used in teaching. Many studies show that teachers with positive attitudes towards ICT and recognise its potential in improving student engagement are likely to adopt ICT tools and resources in their teaching. This has been evident in numerous studies conducted globally, where teachers who perceive ICT as beneficial and central to modern teaching and learning tend to incorporate technology-rich teaching methods. Getenet and Haeusle (2024) investigated the relationship between digital literacy, technology self-efficacy, attitude towards digital technologies, and online learning engagement among first-year pre-service teachers in Australia. The study adopted a quantitative survey design involving university students. The findings showed that students with higher digital literacy and positive attitudes towards ICT demonstrated greater engagement in technology-supported learning. The authors recommended that teacher education institutions should strengthen digital competence training to improve student engagement with ICT-supported instruction. Abubakar et al. (2024) examined the influence of technology-integrated curriculum resources on student engagement and academic achievement in tertiary institutions in Sokoto State, Nigeria. Using a descriptive survey, the researchers found that lecturers perceived ICT-integrated instructional resources as significantly enhancing students' classroom participation, collaboration, motivation, and academic performance. However, inadequate ICT facilities and poor internet connectivity remained major constraints. Pearce (2022) conducted a systematic investigation of teachers' and students' perception of ICT use in educational practices by reviewing empirical

studies. The findings revealed that teachers generally viewed ICT positively because it increased students' engagement, participation, communication, and collaborative learning. Nevertheless, inadequate ICT competence and institutional support limited the effective implementation. Bergdah et al. (2024) reviewed empirical studies conducted in higher education between 2014 and 2024 to examine factors influencing student engagement. The review found that teacher support through effective ICT integration, prompt feedback, and interactive digital learning environments significantly improved students' behavioural, emotional, and cognitive engagement.

These studies provide current evidence that teachers generally perceive ICT as a valuable tool for improving tertiary students' engagement, although challenges such as inadequate infrastructure, insufficient digital skills, and limited institutional support continue to affect its effective use.

## Research Method

The study adopted a descriptive survey design. The population comprises all lecturers

**Table 1:** Descriptive statistics on teachers' perception on the effectiveness of ICT

| S/N | ITEMS                                                                    | Agree (f) | %  | Disagree(f) | %  |
|-----|--------------------------------------------------------------------------|-----------|----|-------------|----|
| 1   | Students actively use ICT tools for learning                             | 167.50    | 67 | 82.50       | 33 |
| 2   | Most students are familiar with basic ICT tools, e.g., Word, PowerPoint. | 182.50    | 73 | 67.50       | 27 |
| 3   | ICT improves students' participation in academic activities              | 170       | 68 | 80          | 32 |
| 4   | Students prefer traditional methods over ICT-based learning              | 80        | 32 | 170         | 68 |
| 5   | Students are motivated to use ICT for academic research                  | 165       | 66 | 85          | 34 |

Table 1 explores teachers' perception of students' engagement with ICT tools in enhancing learning outcomes. The table shows that teachers generally believe that students are actively using ICT tools in their learning, with 67% agreement. Similarly, most teachers (73%) perceive that students are familiar with basic ICT tools like Microsoft Word and PowerPoint, while 27 (27%) does not agree with this. When asked whether ICT improves students' participation, 68% of the teachers were in agreement, while 32% did

at Federal University, Oye-Ekiti. Simple random sampling method was used to draw 250 lecturers across faculties. A well-structured and validated questionnaire was used to collect data for this study. The questionnaire consisted of two sections. Section A was used to elicit information on biodata of the respondents, while Section B consisted of items to elicit information on the study. The questionnaire was structured on a four-point Likert type scale of Strongly Agree (SA)—4, Agree (A) —3, Disagree (D) —2, and Strongly Disagree (SD) —1. A test-retest method of reliability was employed to ascertain the reliability of the instrument. The result from the pilot testing was analysed using Pearson Product Moment Correlation (PPMC), which yielded a reliability coefficient of 0.78. The instrument was distributed to the lecturers with the help of research assistants. Data were analysed using descriptive statistics.

## Results

**Question 1:** What are teachers' perceptions of the effectiveness of ICT tools in enhancing students' learning outcomes?

not agree. In contrast, the statement, students prefer traditional methods over ICT-based learning, had most teachers (68%) disagreeing, while only 32% were in agreement. This suggests that most teachers believe that students favour ICT-based learning over traditional methods, contradicting the idea that students resist digital tools. Regarding students' motivation to use ICT for academic research, 66% of teachers agreed. Overall, teachers perceive that students are reasonably engaged and motivated in using

ICT for academic purposes. They acknowledge students' familiarity with digital tools, increased participation through ICT, and a clear preference for technology-enhanced learning over traditional methods.

**Question 2:** What are the challenges faced by teachers in integrating ICT into their teaching practices?

**Table 2:** Descriptive statistics on ICT resources and accessibility.

| S/N | ITEMS                                                         | Agree (f) | %  | Disagree(f) | %  |
|-----|---------------------------------------------------------------|-----------|----|-------------|----|
| 1   | The university provides adequate ICT facilities for students  | 110       | 44 | 140         | 56 |
| 2   | Students have regular access to the internet on campus        | 115       | 46 | 135         | 54 |
| 3   | Most students own laptops or smartphones for academic purpose | 170       | 68 | 80          | 32 |
| 4   | Inadequate ICT infrastructure limits student engagement       | 212.5     | 85 | 37.5        | 15 |
| 5   | Power supply is a major challenge to effective ICT usage      | 182.5     | 73 | 67.5        | 27 |

Table 2 shows that the major concern identified is inadequate ICT infrastructure, which teachers strongly agree limits engagement. This statement received 85% agreement, suggesting that infrastructure inadequacies are a critical barrier to effective ICT integration. Also, power supply issues are seen as a substantial challenge with 73% agreement. Teachers also largely agree that most students own laptops or smartphones for academic purposes (68% agreement). On the other hand, access to internet and availability of university-provided ICT facilities received lower percentages, with less than half of the respondents agreeing. For instance, only 44% of teachers agreed that students have regular internet access on campus. These low scores highlight

infrastructural limitation as a major institutional shortcoming.

Overall, Table 2 reveals that while students generally own ICT devices, significant institutional challenges persist, including poor ICT infrastructure, unreliable internet access, and inconsistent power supply. The responses suggest that these limitations are widely recognized by teachers and present serious obstacles to the effective integration of ICT in teaching and learning. Addressing these issues would be essential for promoting more equitable and efficient use of technology in the university setting.

**Question 3:** To what extent do students engage with ICT both within and outside the classroom?

**Table 3:** Descriptive statistics on Teacher's role and institutional support

| S/N | STATEMENTS                                                                     | Agree (f) | %  | Disagree(f) | %  |
|-----|--------------------------------------------------------------------------------|-----------|----|-------------|----|
| 1   | I encourage students to use ICT in their assignments                           | 192.5     | 77 | 57.5        | 23 |
| 2   | I use ICT tools (e.g., PowerPoint, Google Classroom) in my teaching            | 170       | 68 | 80          | 32 |
| 3   | I have received adequate training to integrate ICT into teaching               | 152.50    | 61 | 97.5        | 39 |
| 4   | The university organizes regular ICT training and workshops for academic staff | 165       | 66 | 85          | 34 |
| 5   | More support is needed from the university to enhance ICT integration.         | 217.5     | 87 | 32.5        | 13 |

Table 3 revealed that the highest rated statement is the need for more support from the university to enhance ICT integration, with 87% agreement. This shows a clear consensus that while progress has been made, greater institutional commitment is still required to effectively support ICT use in teaching and learning. Teachers also report actively encouraging students to use ICT in their assignments, with 77% agreement. Similarly, a majority of teachers (68%) disclosed that they use ICT tools such as PowerPoint and Google Classroom during instructions. These findings highlight the positive role teachers play in promoting ICT engagement. More so, 61% of the respondents revealed that they had received adequate training to integrate ICT in their teaching. Likewise, 66% agreed that the university organizes regular ICT workshops.

Overall, Table 3 demonstrated that teachers are actively involved in promoting student engagement with ICT, and there is a general belief that ICT is actively integrated into classroom processes. However, the call for increased institutional support and more comprehensive training is evident.

## Discussions

The study examined teachers' perception on student engagement with ICT both inside and outside the classroom. Findings from this study provide meaningful insights when aligned with the research questions and existing literature.

The results from the findings reveal that a significant portion of the students regularly use ICT for academic activities during lectures. This suggests a growing integration of technology into classroom-based instruction. This finding is consistent with Teller et al. (2025) who emphasized that ICT fosters more interactive and participatory learning experience. The high level of in-class ICT engagement may also reflect the efforts of teachers who perceive technology as a useful educational tool and are thus more likely to integrate it into their instructional material, Ayo -Ogunlusi (2019).

On the issue of students using ICT tools outside the classroom, results showed a similarly high level of engagement. Many students reported using ICT for assignments,

research, communication with peers, and accessing online resources. This finding supports Akinyemi (2014) assertion that the use of digital tools such as internet, computers, multimedia resources, and mobile technologies support teaching and learning and communication within educational settings.

With respect to the extent of student engagement with ICT inside and outside the classroom, the results indicated that students who are active using ICT during classes are also likely to use it outside the class for academic purposes. This submission also supports Bandele (2016)'s result that ICT plays a critical role in determining the extent to which technology is embraced in the teaching and learning both within and outside the classroom. Also, it is also in concord with Tella (2025) who asserted that students engage more when technology use is embedded in both instructional and self-directed learning contexts and that the high level of engagement is likely influenced by teachers' positive attitude towards ICT, as teachers who value digital tools tend to adopt strategies that involve students in active technology-mediated learning. Conversely, challenges such as inadequate infrastructure or limited teacher training, as identified by Teo (2014), Ally (2016) and Agbo et al. (2023) can hinder the effective use of ICT and also reduce student interaction with technology. In summary, the study confirms that students are highly engaged with ICT both inside and outside the classroom. This engagement is significantly shaped by how teachers perceive and integrate ICT, as well as by the institutional context. Effective ICT integration, therefore, requires not only individual teacher initiative but also systemic support to ensure that students reap the full benefit of technology-enhanced learning.

## Conclusion

This study concludes that ICT tools play a significant role in promoting effective teaching and active student engagement in Nigerian higher institutions. Students are not only willing but are already engaged with ICT during lectures and in personal learning activities. Teachers also perceive ICT as a powerful aid to teaching and learning, though their capacity to fully utilize it is limited by institutional challenges.

Therefore, the successful integration of ICT into university teaching and learning depends not only on student enthusiasm and teacher willingness, but also on the availability of necessary infrastructure, regular training, and continuous institutional support. Overcoming these barriers will further enhance the educational experience, drive innovation, and better prepare students for a technology-driven world.

### Recommendations:

Based on the findings and conclusion of the study, the following recommendations were made:

1. University administrations should invest in modern ICT infrastructure, including high-speed internet, digital classrooms, functional e-learning platforms, and maintenance support to ensure constant access and reliability.
2. Academic staff should be provided with regular training workshops on how to effectively use ICT tools in teaching.
3. Lecturers should be encouraged to adopt blended teaching models that combine traditional face-to-face instruction with digital tools, which has been shown to improve students' learning outcomes.
4. Programs aimed at enhancing students' digital literacy should be implemented to ensure that all students can effectively engage with ICT in academic contexts.

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