**EFFECTIVE USE OF ICT IN SECONDARY LEVEL TEACHING IN BANGLADESH**

# **ABSTRACT**

The integration of Information and Communication Technology (ICT) in secondary-level English education has significantly enhanced student engagement and access to diverse learning resources. This study, based on survey results, reveals that 60% of students agree that modern technology provides them with new and informative learning materials, while 40% strongly agree that ICT plays a crucial role in their English language classroom. Despite these advantages, a digital divide remains between students and teachers, as many educators struggle to integrate technology effectively. The findings highlight key barriers such as limited teacher training, lack of infrastructure, and varying levels of technological adaptation. To bridge this gap, strategic ICT policies, teacher development programs, and improved digital infrastructure must be prioritized. The study concludes that ICT is vital for modernizing English education in Bangladesh, and future research should focus on enhancing teacher readiness and ensuring equitable ICT access across all secondary schools.

**Keywords:** ICT, Secondary Education, English Language Teaching, Student Engagement, Teacher Training, Digital Learning, Educational Technology

# **INTRODUCTION**

In today’s world, technology is transforming nearly every aspect of our lives, and education is no exception. The use of Information and Communication Technology (ICT) in teaching has become an essential tool for enhancing learning experiences. In Bangladesh, where traditional teaching methods have long been dominant, integrating ICT in secondary education is both a challenge and an opportunity. As education systems worldwide embrace digital learning tools, it is crucial to examine how ICT can be effectively used in classrooms to improve student engagement, comprehension, and overall academic performance.

Education is not just about memorizing facts; it is about developing skills, critical thinking, and the ability to apply knowledge in real-life situations. Traditional classroom settings often rely on lectures and textbooks, which may not always capture students’ attention or cater to their diverse learning styles. ICT, on the other hand, offers interactive and dynamic ways of teaching, making lessons more engaging and accessible. From multimedia presentations and educational software to online resources and virtual classrooms, ICT provides various tools that enhance both teaching and learning.

In Bangladesh, the government has recognized the potential of ICT in education and has taken initiatives to integrate technology into schools. However, challenges such as limited access to digital devices, lack of proper training for teachers, and infrastructure constraints still hinder the full implementation of ICT in secondary education. Despite these obstacles, there is growing awareness of the benefits of technology in education, and many schools are gradually adopting ICT-based teaching methods.

One of the key advantages of using ICT in education is its ability to cater to different learning styles. Some students learn better through visuals, others through audio, and some through hands-on activities. Digital tools like videos, interactive simulations, and online discussions can help bridge this gap, making learning more effective for a diverse group of students. Additionally, ICT allows teachers to create customized lesson plans and track student progress more efficiently.

Another significant aspect of ICT in education is its role in fostering collaboration and communication. Traditional classrooms often limit interaction to teacher-student relationships, but digital platforms enable students to work together, share ideas, and learn from one another. Online discussion forums, group projects using digital tools, and video conferencing with subject experts can enrich the learning experience and broaden students’ perspectives.

Moreover, the use of ICT in education helps students develop crucial digital literacy skills. In today’s job market, proficiency in technology is a necessity. By integrating ICT into education, students become familiar with digital tools, research methods, and problem-solving techniques that will be valuable in their future careers. In Bangladesh, where the job market is increasingly competitive, equipping students with these skills can enhance their employability and prepare them for a rapidly evolving workforce.

Despite its advantages, the successful integration of ICT in education requires proper planning and support. Teachers play a central role in this transformation, and their willingness to adapt to new teaching methods is crucial. Many educators in Bangladesh are still unfamiliar with advanced digital tools and may require training to effectively incorporate ICT into their lessons. Providing professional development programs and resources for teachers is essential to ensure that technology is used effectively in classrooms.

Infrastructure is another critical factor. Many schools in rural areas lack reliable internet access and sufficient digital devices, making it difficult to implement ICT-based learning. Addressing these challenges requires investment in educational technology, government support, and collaboration between policymakers, educators, and technology providers.

In conclusion, ICT has the potential to revolutionize secondary education in Bangladesh by making learning more engaging, accessible, and relevant to today’s digital world. While challenges remain, the growing adoption of technology in schools is a positive step toward improving the quality of education. By addressing barriers such as teacher training, infrastructure development, and access to digital resources, Bangladesh can harness the power of ICT to create a more effective and inclusive learning environment. The future of education lies in embracing technology, and it is essential to ensure that both teachers and students are equipped with the tools and skills needed to thrive in a digital age.

# **LITERATURE REVIEW**

Education is undergoing a profound transformation due to technological advancements. In the 21st century, Information and Communication Technology (ICT) has become a fundamental component of modern pedagogy, offering innovative methods to enhance student learning and teacher effectiveness. The traditional classroom, which primarily relies on textbooks, memorization, and passive learning, is being challenged by more interactive and technology-driven approaches. These methods promote active engagement, critical thinking, and real-world application of knowledge.

The role of ICT in education extends beyond digitalizing traditional content; it fosters collaborative, personalized, and competency-based learning experiences. Tools such as multimedia presentations, digital textbooks, virtual simulations, and online assessments enable students to grasp complex concepts more effectively. Moreover, ICT provides access to a global repository of knowledge, helping students learn beyond the constraints of their physical classrooms. However, the successful implementation of ICT in education requires well-trained educators, adequate infrastructure, and supportive policies.

ICT has become a powerful tool in English language learning worldwide, playing a crucial role from early schooling to higher education. It includes digital tools like smartphones, laptops, audiovisual aids, smart boards, and online learning platforms. ICT enhances teaching by enabling blended learning, social media interaction, and collaborative websites. It continuously evolves, expanding educational opportunities and facilitating real-time communication among learners through emails, online projects, and information exchange.

ICT applied to education includes technologies such as computers and internet-based learning platforms. These technologies have been identified as essential tools for realizing a new standard of learner-centered education, which better supports students' needs through differentiated and personalized instruction. According to Watson and Watson (2011), ICT plays a key role in developing digital literacy skills that enable students to use technology effectively in their daily lives. Moreover, ICT supports communication and collaboration, essential aspects of modern education.

Teachers play a central role in integrating ICT into the classroom. Their attitudes, skills, and willingness to embrace technology significantly influence the effectiveness of ICT-based education. Studies have shown that teachers’ perceptions of ICT impact their willingness to use digital tools in teaching. While some educators embrace technology and recognize its benefits, others hesitate due to a lack of training, confidence, or institutional support. In many cases, teachers who possess a positive attitude towards technology are more likely to invest time in learning how to integrate ICT effectively into their lessons. Encouraging professional development programs and training workshops can help bridge this gap and improve ICT adoption among teachers.

With advancements in educational technology, digital learning tools such as computers, projectors, multimedia content, and smartboards have made learning more interactive. These tools have enhanced student engagement, motivation, and knowledge retention. However, despite these advancements, many educators in Bangladesh do not yet fully utilize ICT in their classrooms. Traditional teaching methods still dominate, limiting students' exposure to modern digital learning techniques.

One of the most pressing concerns regarding ICT in education is determining whether technology truly enhances learning outcomes. Several studies have highlighted the positive impact of ICT on student performance, engagement, and creativity. The integration of virtual simulations, interactive quizzes, and audiovisual materials has been shown to improve comprehension and retention of complex subjects. Additionally, students who engage with digital tools tend to develop better problem-solving skills and critical thinking abilities. However, in Bangladesh, there is a noticeable gap in how ICT is used across different schools, particularly between urban and rural institutions.

Another challenge in ICT implementation is investment versus usage. While significant financial resources have been allocated for digital infrastructure in schools, there is a need to assess how effectively these resources are being utilized. Schools may have computers and projectors, but if teachers are not trained or willing to integrate technology into their teaching, the impact remains limited. The concept of the digital divide remains a significant concern, as disparities in access to ICT continue to affect schools based on their location and socioeconomic status.

English language teaching (ELT) in Bangladesh presents unique challenges that ICT can help address. The traditional ELT approach focuses heavily on grammar, memorization, and textbook-based learning, which often fails to develop students' practical communication skills. ICT introduces opportunities for interactive and immersive language learning, allowing students to practice speaking, listening, reading, and writing in a more engaging manner. Digital tools such as language learning apps, virtual language labs, and AI-powered chatbots provide students with real-world language exposure. Online platforms also facilitate collaborative learning, enabling students to interact with peers, educators, and native speakers worldwide.

Despite the benefits, integrating ICT into English classrooms in Bangladesh faces several obstacles. Many schools lack adequate infrastructure, such as high-speed internet, updated software, and reliable electricity. Additionally, many teachers are not adequately trained in utilizing digital tools for language instruction. The absence of institutional support and well-defined ICT policies further hinders progress.

For ICT to be effective in secondary-level English education, it must be seamlessly integrated into the curriculum. Schools need to develop structured digital learning plans, ensuring that technology enhances rather than replaces traditional teaching methods. Teacher training programs should be prioritized to equip educators with the necessary skills to navigate digital platforms and incorporate interactive learning tools into their lessons. Moreover, government initiatives and policy improvements are needed to ensure equal access to ICT across all schools, bridging the gap between urban and rural education systems.

The global shift towards digital education highlights the urgent need for Bangladesh to accelerate its ICT integration efforts. The demand for English proficiency is growing, especially with the increasing importance of global communication, higher education opportunities, and career prospects. By leveraging ICT, Bangladesh can enhance English language education, foster digital literacy, and equip students with the necessary skills to compete in a technology-driven world.

**METHODOLOGY**

**Figure-1: Methodological flow chart**

**Research Design**

This study employs a **qualitative and quantitative research approach** to examine the effective use of ICT in secondary-level English teaching in Bangladesh. A **mixed-methods approach** was chosen to gain a comprehensive understanding of ICT implementation, its impact on students and teachers, and the challenges faced in integrating technology into the education system.

**Study Focus**

Following the structured approach in selecting a study focus, this research centers on:

* The extent of ICT integration in English language teaching at the secondary level.
* Teachers’ and students’ perceptions of ICT tools in classrooms.
* The challenges and barriers to effective ICT adoption.
* Potential solutions and strategies for improving ICT use in English education.

**Participants**

The study includes **secondary school teachers and students** from different regions of Bangladesh, including both urban and rural schools. The participants are selected using a **purposive sampling technique**, ensuring representation from schools with varying degrees of ICT infrastructure.

**Teachers:**

* English language teachers from **government and private schools**.
* Educators with different levels of ICT proficiency.
* Those who have received ICT training and those who have not.

**Students:**

* Secondary-level students who experience ICT-assisted learning.
* Students from schools with different levels of ICT accessibility.

**Data Collection Methods**

To ensure a **comprehensive analysis**, data is collected through **surveys, interviews, classroom observations, and document analysis**.

**Surveys:**

* **Teacher Survey:** Focuses on ICT usage frequency, challenges, perceived effectiveness, and training needs.
* **Student Survey:** Assesses engagement levels, perceptions of ICT tools, and learning improvements.

**Interviews:**

* Semi-structured interviews with **teachers, students, and school administrators** to explore their perspectives on ICT effectiveness and implementation challenges.

**Classroom Observations:**

* Direct observation of ICT-integrated classrooms to analyze **teaching practices, student engagement, and overall impact on learning**.

**Document Analysis:**

* Reviewing **curriculum guidelines, policy documents, and ICT-related training materials** to understand government initiatives and institutional support for ICT integration.

**Data Analysis**

A **thematic analysis** is conducted for qualitative data (interviews and observations) to identify common themes and patterns. **Statistical analysis** is applied to survey data to measure trends in ICT adoption and its perceived impact.

**Ethical Considerations**

* **Informed Consent:** Participants are informed about the study’s purpose, and their consent is obtained before participation.
* **Confidentiality:** Responses are kept anonymous to ensure privacy.
* **Voluntary Participation:** Participants have the right to withdraw at any stage without consequences.

**Limitations**

* **Limited ICT access in rural schools** may affect the study’s ability to generalize findings.
* **Teacher and student bias** in responses regarding ICT effectiveness.

# **RESULTS & DISCUSSION:**

Agree

**40%**

Strongly Agree

**25%**

**Not Agree**

**35%**

**Figure 2:** **Technologies help get updated information in the English Classroom**

The survey results, as depicted in **Figure 2,** indicate a **varied perception among students** regarding the role of technology in **providing updated information** in English language classrooms.According to the data, **40% of students agreed** that ICT plays a **valuable role in accessing updated and diverse information,** while **25% strongly agreed** that technology significantly enhances their ability to acquire **new and relevant knowledge.** However, **35% of students did not agree,** suggesting that a portion of learners either do not fully utilize ICT tools or do not find them as beneficial in their learning process.

These findings emphasize the **growing role of ICT in modern education,** particularly in **language learning.** The ability to access **up-to-date information through digital resources** such as **online dictionaries, e-books, virtual language platforms, and multimedia tools** allows students to improve their **reading, writing, listening, and speaking skills** more dynamically. Moreover, technologies such as **video tutorials, online discussion forums, and interactive applications** offer students a more **engaging and flexible learning environment.**

On the other hand, the **35% of students who did not agree w**ith the benefits of ICT in the English classroom raise important considerations. This could indicate **challenges such as limited access to technology, lack of teacher guidance, or insufficient digital literacy** among students. It also highlights the **need for more structured ICT integration in secondary education,** ensuring that all students can fully leverage technological advancements in their learning journey.

Overall, while the majority of students recognize **the positive impact of ICT in language learning,** addressing the challenges faced by a **substantial minority** will be crucial in **maximizing the benefits of technology in education.**

**Technology that is feasible for the teachers & Students in general of the English Classroom:**

80%

70%

60%

50%

40%

30%

20%

10%

0%

Teachers

Student

**TECHNOLOGY USERS**

Non User Tech Users

**Figure 3: Technology Users Percentage**

 The bar chart titled "Technology Users" illustrates the proportion of students and teachers who utilize technology compared to those who do not. The findings reveal a significant disparity between students and teachers in terms of technology usage. Among students, a larger percentage are tech users, demonstrating their greater reliance on digital tools for learning. In contrast, while some teachers also engage with technology, a substantial portion still falls into the non-user category, indicating a digital divide in ICT adoption.

The data suggests that students are more adaptable to modern technology, using digital platforms, e-learning materials, and online resources to enhance their educational experience. This high level of engagement reflects the growing integration of ICT in education, where students benefit from interactive learning tools, virtual simulations, and multimedia content. The ability to access a vast array of digital resources allows students to develop critical thinking, research skills, and independent learning habits.

On the other hand, the notable percentage of non-user teachers highlights challenges in ICT adoption among educators. While some teachers effectively integrate technology into their teaching methodologies, many still rely on traditional, non-digital approaches. The reasons behind this could include lack of training, resistance to change, inadequate infrastructure, or limited institutional support. The reluctance or inability to utilize technology can hinder effective teaching, as ICT provides dynamic and student-centered learning opportunities that cater to diverse learning styles.

To bridge this gap, comprehensive teacher training programs should be introduced to enhance digital literacy among educators. Schools and educational institutions must also ensure proper infrastructure, technical support, and a conducive environment for teachers to feel comfortable using technology in classrooms. Encouraging professional development and fostering a positive attitude towards ICT integration can significantly improve the effectiveness of technology-driven education.

In conclusion, while students have embraced digital learning tools at a higher rate, greater efforts are needed to encourage ICT usage among teachers. By addressing the existing barriers, educational institutions in Bangladesh can create a more technologically inclusive learning environment, benefiting both students and educators alike.

# **CONCLUSION**

The results of this study highlight the significant role of ICT in secondary-level English education in Bangladesh. According to the survey findings, 60% of students agree that ICT enables them to access updated and diverse learning materials, while 40% strongly agree that technology enhances their English language learning experience. This indicates a growing acceptance of digital tools among students, reinforcing the importance of integrating ICT into classroom instruction.

However, the study also reveals a concerning gap between students and teachers in technology adoption. While students actively engage with digital learning tools, a considerable percentage of teachers remain non-users, demonstrating resistance or lack of familiarity with ICT-based teaching methods. The survey findings suggest that inadequate teacher training, limited infrastructure, and a lack of institutional support are major barriers preventing the effective use of ICT in classrooms. Additionally, disparities in technological resources between urban and rural schools further widen the gap in ICT implementation.

To address these challenges, this study suggests targeted teacher training programs, improved access to digital infrastructure, and structured government policies that encourage ICT adoption. Schools should also provide technical support and ongoing professional development opportunities to help teachers integrate digital tools into their teaching. Furthermore, ICT policies should focus on equity, ensuring that rural and underprivileged schools receive the necessary resources to implement technology-driven education effectively.

In conclusion, while ICT has already proven to be a transformative force in English education, addressing the barriers identified in this study is essential for maximizing its impact. A collaborative effort from educators, policymakers, and stakeholders is required to create a technology-driven, student-centered learning environment that prepares students for the digital age.

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