



Awareness of ICT among School Level Students

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Abstract:

Information and Communication Technology (ICT) has become an essential component of modern education systems. Awareness of ICT among school-level students plays a significant role in developing digital literacy, critical thinking, and learning efficiency. This study examines the level of ICT awareness among school students and its impact on learning practices. The research highlights how access to digital tools, teacher guidance, and school infrastructure influence students' familiarity with ICT. Using a descriptive survey method, data were collected from school students to analyze their understanding and usage of ICT tools. The findings reveal moderate awareness levels, emphasizing the need for improved digital infrastructure and training to enhance ICT integration in school education.

Keywords: *ICT Awareness, School Students, Digital Literacy, Educational Technology, ICT Integration.*

Introduction:

Information and Communication Technology (ICT) has significantly transformed education by providing innovative teaching and learning opportunities. In the 21st century, ICT tools such as computers, smartphones, internet resources, and digital learning platforms have become integral to classroom practices. ICT enables students to access information quickly, collaborate with peers, and develop essential digital skills necessary for the knowledge-based society.

School education is the foundational stage where students begin to interact with digital technologies. Awareness of ICT among school-level students is essential because it helps them adapt to modern learning environments and prepares them for future academic and professional challenges. ICT awareness refers to students' understanding of digital tools, their ability to use technology for educational purposes, and their familiarity with online resources.

Many educational policies and programs emphasize integrating ICT in school education. Governments and educational institutions are investing in digital infrastructure, computer laboratories, and teacher training programs to promote ICT-based learning. However, despite these efforts, disparities still exist in students' awareness and access to ICT resources, especially in developing countries.

This study aims to explore the level of ICT awareness among school-level students and analyze how ICT influences their learning process. Understanding students' awareness will help educators and policymakers design strategies to improve digital learning opportunities in schools.

Significance of the Study:

The study of ICT awareness among school students is important for several reasons. First, it highlights the role of digital technology in enhancing learning experiences. Students who are aware of ICT tools can access a vast amount of information and develop independent learning skills.

Second, ICT awareness contributes to the development of digital literacy. In today's digital world, students must be able to use technology effectively and responsibly. Understanding ICT tools helps them acquire essential skills such as information searching, online communication, and digital collaboration.

Third, the study helps identify gaps in ICT accessibility and knowledge among school students. By analyzing students' awareness levels, educators and policymakers can understand whether current ICT initiatives are effective or require improvement.

Finally, the research provides valuable insights for improving teaching strategies. Teachers can integrate ICT-based activities into classrooms to make learning more interactive and engaging. Therefore, this study contributes to enhancing the overall quality of education through effective use of technology.

Review of Literature:

Several studies have explored the role of ICT in education and students' awareness of digital technologies. According to **Selwyn (2004)**, ICT has the potential to transform traditional learning methods by encouraging interactive and student-centered learning environments. The study emphasized that students' familiarity with technology improves their academic engagement.

Tondeur et al. (2007) examined ICT integration in schools and found that students' awareness of technology largely depends on the availability of digital resources and teachers' support. Schools with adequate ICT infrastructure reported higher levels of student engagement and digital literacy.

A study by **Livingstone (2012)** highlighted that ICT awareness among students is influenced by socio-economic background and access to digital devices at home. Students with greater exposure to technology tend to develop stronger digital competencies.

Similarly, **Voogt et al. (2013)** observed that ICT-based learning environments enhance students' problem-solving abilities and collaborative learning skills. The study suggested that integrating ICT into the curriculum can significantly improve students' academic outcomes.

In the Indian context, **Aggarwal (2015)** reported that many school students possess basic ICT knowledge but lack advanced skills due to limited access to computers and insufficient training. The study recommended strengthening ICT infrastructure and providing training programs for both teachers and students.

These studies collectively indicate that ICT awareness plays a crucial role in improving educational outcomes and preparing students for the digital age.

Objectives of the Study:

1. To examine the level of ICT awareness among school-level students.
2. To analyze the use of ICT tools by students for learning purposes.
3. To identify factors influencing ICT awareness among school students.
4. To suggest strategies for improving ICT awareness in schools.

Methodology:

The present study adopted a descriptive survey method to examine ICT awareness among school-level students.

Sample:

The sample consisted of 100 school students selected from secondary schools using simple random sampling.

Tools for Data Collection:

A structured questionnaire on ICT awareness was used to collect data. The questionnaire included questions related to students' familiarity with computers, internet usage, digital learning platforms, and ICT applications in education.

Data Collection Procedure:

The questionnaire was distributed among students in selected schools. Students were instructed to respond honestly based on their knowledge and experiences with ICT.

Data Analysis:

The collected data were analyzed using **percentage analysis and descriptive interpretation** to understand students' awareness levels and usage patterns.

Analysis and Discussion:

The analysis of the collected data revealed several important insights regarding ICT awareness among school-level students. The discussion focuses on students' access to ICT tools, their level of familiarity with digital technologies, the role of schools and teachers, and challenges faced in ICT usage.

Access to ICT Tools:

One of the major factors influencing ICT awareness is students' access to digital devices. The findings indicate that most students are familiar with smartphones and basic computer operations. Many students reported using smartphones to access educational content, search information, and communicate with teachers or classmates.

However, access to computers and internet facilities in schools was found to be limited in some cases. While urban schools often have computer laboratories and internet connectivity, rural schools sometimes lack adequate infrastructure. This difference creates a digital divide among students.

Students who have access to ICT devices at home demonstrate higher awareness levels compared to those who rely solely on school facilities. Home access enables students to explore online learning platforms, educational videos, and digital resources.

Familiarity with ICT Applications:

The study revealed that most students are aware of basic ICT applications such as word processing, internet browsing, and multimedia presentations. Many students use search engines to gather information for school assignments.

Some students also reported using online learning platforms and educational videos to understand complex topics. These digital resources make learning more interactive and help students visualize concepts that may be difficult to understand through traditional teaching methods.

However, advanced ICT skills such as programming, digital content creation, and data analysis were less common among students. This suggests that while students have basic awareness, there is still a need to develop deeper digital competencies.

Role of Teachers in ICT Awareness:

Teachers play a crucial role in promoting ICT awareness among students. When teachers integrate digital tools into their teaching practices, students become more interested in using technology for learning.

The study found that students whose teachers regularly use ICT tools in classrooms demonstrate higher levels of awareness and engagement. For example, the use of digital presentations, online quizzes, and multimedia resources helps students understand topics more effectively.

However, some teachers may face challenges in using ICT due to lack of training or limited technical skills. Teacher training programs are therefore essential to ensure effective integration of ICT in education.

Impact of ICT on Learning:

ICT awareness positively influences students' learning experiences. Students who are familiar with digital tools tend to be more confident in exploring information independently. ICT enables them to access global knowledge resources, collaborate with peers, and participate in online learning activities.

Digital learning platforms also support personalized learning. Students can learn at their own pace and revisit difficult topics whenever necessary. This flexibility enhances students' academic performance and motivation.

Furthermore, ICT promotes creativity and critical thinking. Students can create presentations, projects, and multimedia content that demonstrate their understanding of various subjects.

Challenges in ICT Awareness:

Despite the benefits of ICT, several challenges hinder its effective use in schools. Limited infrastructure, lack of teacher training, and unequal access to digital devices are major barriers.

Another challenge is the lack of structured ICT education in some schools. Without proper guidance, students may use technology primarily for entertainment rather than educational purposes.

Additionally, concerns about online safety and digital ethics are increasingly important. Students must be educated about responsible internet use, cyber security, and digital citizenship.

Implications for Education:

The findings highlight the need for comprehensive strategies to enhance ICT awareness among school students. Schools must invest in digital infrastructure and provide adequate resources such as computers, internet connectivity, and educational software.

Teacher training programs should focus on developing ICT competencies and encouraging innovative teaching methods. Curriculum designers should also integrate ICT-based activities into different subjects to make learning more engaging.

By improving ICT awareness, schools can prepare students for the digital age and equip them with skills necessary for future academic and professional success.

Limitations of the Study:

1. The study was limited to a small sample of school students.
2. The research focused only on selected schools.
3. Data were collected through self-reported responses, which may involve bias.

Policy Suggestions:

1. Schools should strengthen ICT infrastructure and provide computer laboratories.
2. Regular ICT training programs should be organized for teachers.
3. Digital literacy should be integrated into the school curriculum.
4. Government initiatives should focus on reducing the digital divide between urban and rural schools.

Conclusion:

ICT awareness among school-level students is essential for effective participation in modern education. The study reveals that while many students possess basic ICT knowledge, there are still gaps in access, infrastructure, and advanced digital skills. Enhancing ICT awareness requires collaborative efforts from schools, teachers, policymakers, and communities. By improving digital infrastructure and providing proper training, educational institutions can ensure that students develop the necessary technological skills for the future. Ultimately, integrating ICT into school education will promote innovative learning, digital literacy, and overall educational development.

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