A Study of Awareness of Cyber Security among B.Ed. Students

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Abstract: *In today's digital era, everyone has a hand in the Internet and Technology in education Internet and technology are used continuously for teaching and learning processes and assessments, but also expose users to various cybersecurity threats. To spread awareness about cybersecurity most crucial person is a B.Ed. student as they, are future teachers. Digital platforms for academic and professional purposes, making cybersecurity awareness essential to safeguard personal safety and guiding school students toward responsible digital practices. The present study aims to assess the level of cybersecurity awareness among B.Ed. students with respect to their knowledge, attitudes, and practices related to cyber safety, which will also increase the awareness about cybersecurity among society through their students are future citizens.*

Keywords: Cyber Security Awareness, B.Ed. Students, Teacher Education, Digital Safety, Cyber Threats, Digital Literacy

1. Introduction

The rapid evolution in digital technology and the use of the internet have significantly transformed everyone's day-to-day life as well as the educational landscape. The extensive use of the internet, digital devices, and emerging technologies such as Artificial Intelligence has become common among children, adolescents, and educators. While these technological developments enhance access to information, learning opportunities, and communication, they also increase exposure to cybersecurity threats such as data breaches, cyberbullying, phishing, identity theft, and unauthorized access to personal data. Despite the growing dependence on digital platforms, awareness regarding cybersecurity remains limited.

B.Ed. Students, as prospective teachers, frequently engage with digital tools for academic and professional purposes. Their level of cybersecurity awareness is crucial, as it directly influences not only their personal digital safety but also their ability to guide and protect school students in a technology-driven learning environment. With children increasingly using the internet and AI-based applications from an early age, teachers must be equipped with adequate knowledge and skills related to cyber safety.

In this context, assessing the awareness of cybersecurity among B.Ed. students become essential. This research proposal aims to study the basic level of knowledge, attitudes, and practices related to cybersecurity among B.Ed. students. The findings of the study will help identify gaps in awareness and provide a basis for developing training programs, workshops, and curriculum interventions. Enhancing cyber security awareness among B.Ed. students will contribute to promoting safe, responsible, and ethical use of technology in education and foster digital citizenship among future generations.

Meaning of Cyber Security
Cybersecurity helps individuals and organizations reduce the risk and impact of cyberattacks. Cybersecurity also ensures that innovative and emerging technologies (such as AI) can be deployed in a secure way, so the opportunities they present can be fully realized.

For B.Ed. students, cybersecurity means understanding safe practices while using digital tools for teaching and learning.

Types of Cyber Threats in Education
1) **Phishing:** Fake emails or messages asking for passwords or money.
2) **Malware:** Harmful software that damages devices or steals data.
3) **Cyberbullying:** Harassment or bullying through digital platforms.
4) **Identity theft:** Someone using another person's personal details.
5) **Data breaches:** Leakage of students' or teachers' confidential information.
6) **Online fraud:** Scams, fake links, and money traps on digital platforms.
7) **Social engineering:** Manipulating users to reveal information.

Cyber Security Awareness among B.Ed. Students
Many B.Ed. students use smartphones, social media, and online teaching platforms, but often lack knowledge of:
- Strong passwords
- Safe browsing
- Protecting personal data
- Identifying fake links
- Reporting cybercrimes
- Safe use of social media

Awareness programs and workshops are needed to improve digital literacy among future teachers.

Importance of Cyber Security for Teachers
Cybersecurity is crucial for teachers as:
- They store sensitive student data.
- They use digital tools for teaching, assessment, and evaluation.
- They guide children on safe internet use as a tool.
- They must act as digital role models.

Cybersecurity is essential for teachers both as individuals and as educators. It ensures personal safety in the digital world and enables teachers to create secure, ethical, and responsible learning environments. Cyber-aware teachers play a vital role in shaping digitally responsible future citizens. A teacher with good cyber awareness can prevent cyberbullying, protect classroom privacy, and promote safe digital habits.

Role of Educational Institutions
Schools and colleges should:
- Conduct cyber safety workshops.
- Provide training to teachers and students.
- Implement safe digital practices.
- Develop cybersecurity policies.
- Ensure secure access to e-learning platforms.
- Promote responsible digital citizenship.

Objectives of the Study
1) To check the level of cybersecurity awareness among B.Ed. students.
2) To study the knowledge and practices of B.Ed. students related to cyber safety.
3) To suggest measures for enhancing cybersecurity awareness.

2. Literature Review

The increasing integration of digital technologies in education has brought significant benefits to teaching and learning; however, it has simultaneously increased exposure to cyber risks. Several studies have emphasized the importance of cybersecurity awareness, particularly among students and teachers who actively engage with digital platforms for academic and professional purposes.

1) Sharma (2022) conducted a study on cyber safety among students and highlighted that although students frequently use the internet and social media platforms, their awareness regarding cyber threats such as phishing, identity theft, and cyberbullying remains limited. The study emphasized the need for structured cyber safety education to promote responsible digital behavior. Sharma's findings indicate that awareness programs play a vital role in minimizing online risks among learners.

2) Kumar (2021) examined the role of digital literacy and cybersecurity in teacher education and found that teacher trainees possess basic digital skills but lack in -depth knowledge of cybersecurity practices. The study emphasized that teachers are key agents in guiding students toward safe internet use. Kumar strongly recommended the integration of cybersecurity education into teacher training curricula to prepare future teachers for digitally secure classrooms.

3) Guidelines issued by the National Cyber Security Centre (2023) stress the importance of cyber awareness for educators and students alike. The guidelines outline essential practices such as strong password management, secure data handling, and awareness of online scams. The report highlights that educational institutions must actively promote cybersecurity awareness to protect sensitive academic and personal data.

4) The Cyber Security Awareness (CSA) booklet published by CERT-In (Government of India) provides comprehensive information on common cyber threats, preventive measures, and reporting mechanisms. It emphasizes that lack of awareness is one of the major reasons for the rise in cybercrimes. The booklet recommends regular training and awareness programs, especially for educators, as they influence students' digital habits.

5) Further, resources provided by the All India Council for Technical Education (AICTE) underline the growing need for cybersecurity education across all levels of education. AICTE initiatives aim to create awareness about cyber threats and encourage safe digital practices among students and teachers. These initiatives support the idea that cybersecurity awareness should be treated as an essential life skill in the digital age.

A review of the above literature reveals that while the importance of cybersecurity awareness is widely acknowledged, there exists a significant gap in formal cybersecurity education within teacher training programs. Most studies focus on general student populations, with limited research specifically addressing B.Ed. students. Therefore, the present study seeks to bridge this gap by assessing the level of cybersecurity awareness among B.Ed. students and highlighting the need for systematic integration of cyber safety education in teacher education programs.

3. Research Methodology

The survey method is used for the study. This method is suitable as it helps in collecting information from a large group of respondents regarding their knowledge, attitudes, and practices related to cybersecurity.

Population of the Study
The student- teachers of all B.Ed. Colleges.

Sample and Sampling Technique
The sample includes B.Ed. students in AICESR and P.V.G. College of B.Ed.

Tool for Data Collection
The tool used for data collection is a questionnaire prepared using Google Forms.

The questionnaire includes:
a) Demographic information
b) Multiple-choice questions
c) Open-ended question related to cybersecurity awareness

Procedure of Data Collection
The Google Form questionnaire is shared with B.Ed. students through online platforms

Statistical Techniques Used
The collected data will be analyzed using simple statistical techniques such as:
- Percentage
- Graphs

These techniques help in interpreting the level of cybersecurity awareness among B.Ed. students.

Scope of the Study
The study is limited to Awareness of cybersecurity among B.Ed. students
Responses collected through an online Google Form survey.

Data Analysis	
	By these responses, the term cybersecurity is known by 90% of the responding students.
	Here, it is observed that responding students are aware of cybersecurity, but not aware of all the threats that they need to be aware of
	The pie chart indicates that a majority of the respondents lack awareness of two-factor authentication.
	The analysis of the pie chart indicates that students are in favor of incorporating cybersecurity as a subject within their educational curriculum.
	The findings reveal that students recognize the significance of cyber security and show a willingness to receive formal education related to cyber security.

4. Findings

The response was collected from 70 respondents. Total 18 questions on various aspects of cyber security awareness and digital practices among B.Ed. Term cybersecurity is known by 90% respondent but it revels that the awareness of all threats is negligible, also responses reveal that most respondents use social media regularly and often share personal information online, while many do not actively apply security measures such as privacy settings on social media platforms. The findings also indicate that only a limited number of respondents have experienced cybercrime or cyber security threats; however, the potential risk remains significant due to the frequent use of social media and digital tools without adequate awareness. As B.Ed. students increasingly rely on digital platforms, technical tools, and digital aids in the teaching–learning process, the cumulative findings emphasize the importance of strengthening cyber security awareness to promote safe, informed, and responsible digital practices. This survey indicates the willingness to receive formal education related to cyber security.

5. Conclusion

The present study highlights the importance of cybersecurity awareness among B.Ed. students in the context of a rapidly expanding digital educational environment. The findings reveal that while most B.Ed. students possess a basic understanding of cybersecurity concepts and common online threats; their awareness of advanced cyber risks and safe digital practices is limited. The study also indicates that formal training and structured guidance on cybersecurity are insufficient in teacher education programs.

As future educators, B.Ed. students play a crucial role in ensuring safe and responsible use of technology among school students. The research emphasizes the need to strengthen cybersecurity education within the B.Ed. curriculum through workshops, training sessions, and practical activities. Enhancing cyber security awareness among B.Ed. students will not only safeguard their personal digital lives but also enable them to guide future generations toward responsible digital citizenship. Therefore, integrating cybersecurity education into teacher training programs is essential for creating a secure and ethical digital learning environment.

References

[1] Sharma, R. (2022). Cyber safety among students. International Journal of Education.
[2] Kumar, A. (2021). Digital literacy and cyber security in teacher education.
[3] National Cyber Security Centre. (2023). Cyber safety guidelines.
[4] CERT-In. (n.d.). CSA booklet. Government of India.

Websites
[5] National Cyber Security Centre. (n.d.). What is cyber security?
[6] https://www.ncsc.gov.uk/section/about-ncsc/what-is-cyber security
[7] All India Council for Technical Education. (n.d.). Cyber security.
[8] Cyber Security | All India Council for Technical Education https://aicte.gov.in/CyberSecurity