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PROCEEDINGS

National Conference

Under IQAC Cell

"Sustaining Educational Growth: Capacity Building for Long Term Impact"

11th February 2025

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INDEX

S.No.	Author	Title of the Paper	Page No.
1	Ms. Neha Bajaj & Ms. Shikha Sharma	Shaping the Future: Cultivating Professionalism in Education	6 – 5
2	Ms. Rupa Sharma	The Integration of Innovative Technologies in Education for Cultivating Competencies among Teachers and Teaching-Learning Practices	16 – 23
3	Ms. Anita Gupta & Dr. Amrita Gupta	How Work-Based Learning Experience Shapes Career Transition and Career Adaptability after Technical-Vocational Courses	24 – 40
4	Ms. Shivani	Re-imagining Professional Development of Teachers through Capacity Building Pathways to Excellence	41 – 48
5	Dr. Nirmala Panigrahi	Sustainable Development In Higher Education Sector: A Gateway to Secure the Future	49 – 54
6	Ms. Neetu Sharma & Ms. Vaishnavi Verma	Cyber Capacity Building Programs as per NEP 2020	55 – 58
7	Dr. Geeta Sharma & Dr. Priti Srivastava	Building a Strong Foundation: Capacity Building for Sustainable Educational Growth	59 – 67
8	Mr. Rizwan Ali	Techno- Pedagogy as Strategy in Achieving Capacity Building among Teachers	68 - 76
9	Dr. M. Zainul Abedin Shamsi	Innovative Teaching Practices for Capacity Building: Empowering Teachers for Enhanced Educational Outcomes	77 – 85

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CYBER CAPACITY BUILDING PROGRAMS AS PER NEP 2020

Ms. Neetu Sharma*

Ms. Vaishnavi Verma**

ABSTRACT

Cyber capacity building is crucial in today's digital landscape, especially in alignment with India's National Education Policy 2020 (NEP 2020), which emphasizes digital literacy, cybersecurity awareness, and technology-driven education. This abstract outline a Cyber Capacity Building Program (CCBP) designed to enhance digital security awareness, develop cybersecurity skills, and foster a resilient cyber ecosystem. NEP 2020 advocates for integrating technology in education, promoting cyber ethics, and encouraging digital skill development at all educational levels.

Keywords: Cyber Capacity Building Programs, NEP 2020, Technology in Education

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INTRODUCTION

The increasing use of digital platforms in education and business has led to a rise in cybersecurity challenges, including phishing, ransomware, and identity theft. NEP 2020 recognizes this issue and advocates for integrating cybersecurity awareness and skills into the Indian education system. The Cyber Capacity Building Program (CCBP) aims to equip students, educators, and professionals with the necessary skills to protect themselves and their institutions from cyber threats.

The Proposed CCBP will focus on: -

1. Digital Literacy & Cyber Hygiene – Training individuals in safe online practices, secure communication, and data privacy.
2. Cybersecurity Skill Development – Providing hands-on experience in threat detection, ethical hacking, and digital forensics.
3. Educational Integration – Embedding cybersecurity concepts in school and higher education curricula.



4. Capacity Enhancement for Educators – Equipping teachers with cyber education tools and methodologies.

5. Public Awareness & Policy Advocacy – Conducting workshops, webinars, and campaigns to build a cyber-aware society.

OBJECTIVES

The Cyber Capacity Building Program (CCBP), aligned with the National Education Policy 2020 (NEP 2020), aims to enhance digital literacy, cybersecurity awareness, and technological resilience across all educational and professional sectors.

The key objectives include –

- Promote Digital Literacy and Cyber Hygiene.
- Develop Cybersecurity Skills for Employability.
- Ensure a Secure Digital Ecosystem.
- Encourage Public Awareness and Policy Advocacy. METHODOLOGY
- Develop age-appropriate cybersecurity courses for different educational levels.
- Introduce cybersecurity labs and simulation exercises for hands-on training.
- Conduct cyber awareness workshops for students, parents, and teachers.
- Develop open-source cybersecurity tools for institutional use.

NEED FOR CYBER CAPACITY BUILDING IN EDUCATION

1. Rising cybercrime targeting students and educational institutions.
2. Lack of structured cybersecurity curricula in Indian schools and universities.
3. Increased use of digital learning platforms post-pandemic.

CASE STUDIES SUCCESSFUL CYBER CAPACITY BUILDING INITIATIVES

Case Study 1: Cyber Shiksha Initiative (India)-

The Cyber Shiksha Initiative, launched by Data Security Council of India (DSCI) and Microsoft, focuses on training young women in cybersecurity skills to enhance their employability. Impact- Over 500 students trained in cybersecurity. Increased women's participation in the cybersecurity workforce. Enhanced industry-academia collaboration.



Case Study 2: Cybersecurity Training in Estonia's Education System

Estonia, a global leader in digital governance, has integrated cybersecurity education into its national curriculum. Impact- High national cyber resilience, making Estonia one of the most cybersecure nations. Increased youth engagement in cybersecurity careers.

Case Study 3: - The Kerala government launched a cybersecurity awareness program targeting school students.

Impact- Reduced cases of cyberbullying and online fraud among students. Improved parental awareness of children's digital safety.

EXPECTED OUTCOMES AND IMPACT

- Strengthened Cyber Resilience
- Increased awareness of cyber threats and best practices.
- More secure digital learning environments in schools and universities.
- Skilled Cybersecurity Workforce
- Higher employment rates in cybersecurity sectors.
- More students pursuing cybersecurity careers.
- Stronger cybersecurity governance in education.
- Integration of cybersecurity policies in national education frameworks. RECOMMENDATIONS- • Government and private sector collaboration for funding and expertise.
- Development of teacher training programs in cybersecurity.
- Expansion of cyber capacity building to rural schools. FUTURE SCOPE –
- Expansion of cyber capacity-building initiatives beyond education.
- Leveraging AI and blockchain for advanced cybersecurity training.
- Strengthening international partnerships for cybersecurity education.

CONCLUSION

The Cyber Capacity Building Program (CCBP), aligned with NEP 2020, is essential for developing a digitally secure and cyber-resilient India. By integrating cybersecurity education, skill development, and policy advocacy, this initiative will empower students, educators, and

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institutions. The case studies demonstrate successful implementations that India can adopt and scale for nationwide impact.

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