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Report on Technical Session III (School Education)

The Technical Session III of the Two-Day National Conference on "Integrating AI & 21st Century Skills in Education with reference to School Education" focused on exploring the multifaceted role of Artificial Intelligence (AI) and the integration of 21st-century skills in transforming educational practices. The session was chaired by **Prof. (Dr.) Mohammad Amjad**, while **Prof. Rashid Ashraf Malik** served as the discussant. The session brought together eminent scholars and practitioners who shared insightful perspectives, empirical research, and innovative classroom experiences aimed at reshaping the school education landscape of Jammu and Kashmir.

The session began with opening remarks from the Chairperson, who highlighted the growing significance of AI in education and the urgent need to align teaching methodologies with the demands of the 21st century. A total of ten research papers were presented, each addressing a specific aspect of the central theme.

The first paper, "School Adjustment of Specially Abled Senior Secondary School Students: Responsible for Inclusion and Equitable School Education – Role of AI" by Firdoos Ahmad, emphasized how AI-driven tools can foster inclusion and equitable learning opportunities for specially-abled students through adaptive technologies and personalized support systems. The paper revealed that AI-based assistive technologies significantly enhance the academic adjustment, motivation, and confidence of specially-abled learners, thereby promoting inclusion and equity in school education.

The second paper, "Integrating 21st Century Skills in Education for Sustainable Development: Reflections from Curricula, Pedagogy & Assessment Patterns in Educational Institutions of J&K" by Dr. Fayaz Ahmad Bhat and Dr. Kulsooma Gull (DIET Srinagar), explored how critical thinking, creativity, collaboration, and communication can be systematically incorporated into curriculum design and assessment frameworks to achieve sustainable educational outcomes. The authors found that integrating 21st-century skills into curricula and assessments enhances student engagement, creativity, and adaptability, but requires significant curricular flexibility and teacher capacity building.

The third paper, "Cultivating 21st Century Skills at Foundational Stage – Critical Thinking, Collaboration, Creativity and Communication" by Dr. Urfana Amin, highlighted the importance of developing essential life skills from the foundational years through engaging, inquiry-based pedagogies. The findings indicated that introducing critical thinking and collaborative learning at

the foundational level fosters curiosity, social interaction, and problem-solving abilities among young learners.

The fourth paper, "Digital and AI Literacy Across Foundational, Preparatory, and Secondary Stages in Jammu and Kashmir: Aligning Local Realities with National and Global Visions" by Sheikh Gulzar Ahmad, discussed strategies for integrating AI and digital literacy across various educational stages while aligning local challenges with national and global goals. The study concluded that while digital and AI literacy initiatives are expanding in J&K, there is a need for infrastructure strengthening, localized digital content, and teacher training to ensure equitable implementation.

The fifth paper, "Innovative Assessment and Feedback Mechanisms through Artificial Intelligence: A NEP 2020 Perspective" by Mr. Azad Hussain Syed Bukhari, focused on AI-enabled assessment systems that provide real-time feedback and promote individualized, self-paced learning in accordance with the National Education Policy (NEP) 2020. The paper found that AI-driven assessment tools improve objectivity, efficiency, and learner autonomy, though data privacy and ethical use of analytics remain critical considerations.

The sixth presentation, "Integrating AI & 21st Century Skills in Education – Gamification, Augmented Reality (AR), and Virtual Reality (VR) in School Learning" by Mr. Javeed Hassan Sofi, showcased the transformative potential of immersive technologies in enhancing engagement and conceptual understanding among students. The study demonstrated that gamified and immersive learning environments significantly improve student motivation, retention, and understanding of complex concepts.

The seventh paper, "AI-Enabled Classrooms and Cultivating 21st Century Skills: A Case Study of Government Higher Secondary School Qaimoh" by Dr. Sajad Ahmad Mir, presented real-world insights into how AI-integrated teaching practices are revolutionizing classroom learning in government institutions. The case study revealed that AI integration enhances student participation, personalized learning, and teacher efficiency, but requires ongoing support and infrastructure upgrades.

The eighth paper, "From Chalkboards to Chatbots: Leveraging Large Language Models for English Language Teaching in India" by Mr. Munir Ahmad Wani, examined how AI chatbots and language models can serve as interactive tools to improve English proficiency and communication skills. The paper found that AI-driven chatbots can significantly improve learners' vocabulary, pronunciation, and confidence in language use, providing flexible, individualized learning opportunities.

The ninth presentation, "Gamification, Augmented Reality (AR) and Virtual Reality (VR) in School Learning" by Ms. Shabeela Aziz, reinforced the significance of gamified learning and virtual environments in making classroom experiences more engaging and student-centered. The findings highlighted that the integration of AR and VR fosters experiential learning, deeper comprehension, and a positive shift in students' learning attitudes.

The final paper, "Blended Learning as a Tool for Educational Inclusion: Experiences from Remote Habitations of Hapatnar and Nagbal in South Kashmir" by Dr. Mushtaq Rather, shared field-based experiences demonstrating how blended learning models are bridging educational gaps and promoting inclusivity in geographically remote areas. The study concluded that blended learning ensures continuity and accessibility in education, particularly in rural areas, and supports equitable participation despite geographical barriers.

Following the presentations, the discussant Prof. Rashid Ashraf Malik provided an insightful synthesis of the papers, appreciating their academic depth and practical relevance while offering constructive suggestions to the presenters. The session concluded with an interactive discussion on challenges such as teacher preparedness, digital infrastructure, ethical considerations in AI use, and the need for continuous professional development in AI-integrated pedagogy.

In his concluding remarks, Prof. (Dr.) Mohammad Amjad commended the presenters for their scholarly contributions and emphasized the importance of collaborative research and innovation in strengthening AI integration across educational stages. The key takeaway from the session was that AI, when ethically and effectively integrated, can enhance inclusion, personalization, and skill-based learning. The session was highly engaging, intellectually stimulating, and forward-looking, reflecting a collective vision of building technologically empowered, inclusive, and skill-oriented educational ecosystems for the 21st century.

Sd/-
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