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Teacher, Student and Technology in Viksit Bharat

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***Abstract*—Viksit Bharat Abhiyan (or Viksit Bharat@2047) is an initiative of the Government of India to make India a developed nation by 2047. This vision stands on four pillars - Yuva (Youth), Garib (Poor), Mahilayen (Women) and Annadata (Farmers). It aims to boost India's economy to $30 trillion in two decades, concentrating on its infrastructure, education, health care, technology, and sustainable development. Fulfilling Viksit Bharat's vision needs to cater to the education system's imbalance and promote inclusive growth with skills upgradation suitable for the 21st century. The National Education Policy (NEP) 2020 aims to catalyze this transformation. In the envisioned landscape of Viksit Bharat (Developed India) in 2047, trans-formative teacher education emerges as a cornerstone for sustained progress and societal development. This abstract provides a snapshot of the evolving perspectives and innovative approaches characterizing the paradigm shift in teacher education. Rooted in the integration of advanced technologies, progressive pedagogies, and a holistic educator development model, the research explores the multifaceted nature of teacher preparation.**

***Index Terms*—Students, Teachers, Holistic Development, Developed India 2047, Technology Integration.**

I. INTRODUCTION:

Viksit Bharat 2047 envisions India as a developed nation by the 100th year of independence. Education is one of the key pillars of this vision, where teachers, students, and technology work together to create a skilled, innovative, and responsible society. Education serves as a catalyst for social revolution and a vital tool for attaining fundamental human rights. Literacy and basic education unlock new opportunities for personal, civic, economic, and lifelong learning, empowering individuals to advance personally and professionally. To achieve the ambitious goals of Viksit Bharat, Education 4.0 will play a pivotal role in revolutionizing the education sector. By

integrating cutting-edge technologies and innovative pedagogies, Education 4.0 will equip future generations with the skills, knowledge, and competencies necessary to thrive in an increasingly complex and interconnected world. As India embarks on this transformative journey, it is essential to explore the intersections between Education 4.0 and Viksit Bharat, ultimately. In the year 2047, as Viksit Bharat stands proudly as a Developed India, the evolution of its educational landscape, especially in the domain of teacher education, becomes a beacon of progress and innovation. This article delves into the transformative journey that characterizes teacher education in this advanced nation, exploring the perspectives and innovative approaches that redefine the role of educators in shaping the future. Viksit Bharat's commitment to excellence in education is mirrored in its dedication to preparing teachers who not only adapt to but also drive the dynamic changes in the learning environment. This article aims to provide a comprehensive overview of the conceptual framework underpinning transformative teacher education, shedding light on cutting-edge technologies, pedagogical advancements, and holistic approaches that contribute to the holistic development of educators. By examining the multifaceted aspects of teacher preparation, this article contributes to the discourse on the future of education in Viksit Bharat, illustrating the transformative strides taken in the realm of teacher education, fostering a progressive and adaptable cohort of educators poised to meet the challenges of the 21st century.

II. ROLE OF THE TEACHER

The future of the country is designed by its educators. In Viksit Bharat, they are expected to:

- Rather than just imparting knowledge, serve as mentors and facilitators.
- Promote problem-solving, creativity, and critical thinking.
- Encourage moral principles including discipline, ethics, and environmental responsibility.
- Make learning dynamic by utilizing smart classrooms, artificial intelligence, and digital tools.
- Continually improve their abilities through training in technology and professional development.

Role of Teachers in Building Viksit Bharat

Because they mold students' knowledge, abilities, values, and character, teachers are frequently referred to as the architects of the country's future. Teachers have duties outside of the traditional classroom, according to Viksit Bharat's (Developed India) vision. They are supposed to help pupils become creative, responsible, and competitive citizens on a global scale.

1. Act as Facilitators and Mentors Rather Than Only Knowledge Providers

Teachers were primarily in charge of imparting knowledge while pupils listened and committed it to memory in the conventional educational system. These days, books, the internet, and digital platforms make information easily accessible. As a result, the function of the teacher has changed to include mentoring and facilitation.

Students are guided by a facilitator as they investigate ideas, pose queries, and come up with answers on their own. Teachers serve as mentors, offering personal inspiration, career advice, and

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emotional support. They support kids in discovering their abilities, overcoming obstacles, and gaining self-assurance.
For instance, a teacher encourages students to do experiments, discuss observations, and come to their own conclusions rather than merely describing a science idea.

2. Encourage Critical Thinking, Creativity, and Problem-Solving
Instead of just memorizing facts, the goal of modern education is to create students who are capable of autonomous thought. Students should be encouraged by their teachers to assess information, analyze situations, and come to logical conclusions.
Creating original concepts and creative solutions is a key component of creativity. Students with strong problem-solving abilities are better equipped to handle obstacles in real life. These skills are highly regarded in the job and are necessary in the ever-evolving world of today.

Teachers can encourage these abilities by:
- Project-based learning
- Group discussions and debates
- Case studies
- Brainstorming sessions
- Practical experiments
- Real-world problem-solving activities

Example:
Teachers could assign pupils to create a waste management strategy for their school rather than having them memorize environmental topics.

3. Promote Values Such as Ethics, Discipline, and Environmental Responsibility
Character development is just as important to education as academic success. In order to assist pupils, become responsible citizens, teachers are essential in fostering moral and social ideals.

Ethics
Teachers encourage honesty, integrity, fairness, respect, and empathy in daily life.

Discipline
Discipline helps students develop self-control, punctuality, responsibility, and commitment toward their work.

Environmental Responsibility
Teachers promote awareness about sustainable living by advocating behaviors such as:
- Tree plantation
- Water conservation

- Waste segregation
- Recycling
- Energy conservation
- Cleanliness drives

These values contribute to creating socially responsible and environmentally conscious citizens.

Example:
Organizing campaigns to reduce plastic use and encouraging students to participate in community cleanliness programs.

4. Use Digital Tools, Artificial Intelligence, and Smart Classrooms to Make Learning Interactive

Technology has altered education by making learning more enjoyable and accessible. Teachers are expected to integrate digital tools into classroom learning.

Some useful technologies include:

- Smart boards and interactive displays
- Online learning platforms
- Educational videos and animations
- Virtual laboratories
- Learning management systems
- Artificial Intelligence (AI)-based learning tools
- Educational apps and simulations AI can:
- Personalize learning according to student needs.
- Provide instant feedback.
- Assess student performance.
- Generate quizzes and assignments.
- Identify learning gaps.

Smart classrooms make lessons more interactive through multimedia presentations, virtual demonstrations, and collaborative activities.

Example: A geography teacher can employ virtual reality (VR) or digital maps to enable students explore diverse places instead of depending exclusively on textbooks.

5. Continuously Upgrade Their Skills Through Professional Development and Technology Training

Technology and education are always changing. Therefore, instructors must engage in lifelong learning to stay successful educators.

Professional development helps teachers:

- Learn modern teaching methods.

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- Improve classroom management.
- Understand new educational policies.
- Master digital teaching tools.
- Develop subject expertise.
- Incorporate innovative teaching strategies.

Teachers can upgrade their skills through:

- Workshops
- Seminars
- Online certification courses
- Faculty development programmes
- Webinars
- Peer learning communities
- Research and academic conferences

Continuous learning enables teachers to provide quality education that meets the needs of the 21st-century learner.

Example:
A teacher who completes training in AI-powered educational tools can develop tailored learning experiences and boost student engagement.

III. ROLE OF THE STUDENT

Students are India's future leaders and innovators.

- Develop curiosity and a lifetime learning mindset.
- Build digital literacy and technological abilities.
- Focus on innovation, entrepreneurship, and research.
- Practice teamwork, leadership, and responsible citizenship.
- Use technology responsibly and ethically for learning and nation-building.

Role of Students in Viksit Bharat (Developed India)
Students are the backbone of a nation's future. By 2047, they will have shaped India's path towards Viksit Bharat (Developed India) as innovators, leaders, entrepreneurs, and responsible citizens. Their knowledge, abilities, creativity, and values will decide the country's success in education, technology, economy, and social development.

By actively contributing to their personal progress and the welfare of society, students may play a significant part in developing India into an internationally respected, prosperous, and sustainable nation.

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1. Develop Curiosity and a Lifelong Learning Mindset

Curiosity is the root of invention and discovery. Students should foster the practice of asking questions, exploring new ideas, and pursuing knowledge beyond textbooks. A lifelong learning mentality motivates them to consistently enhance their abilities and adapt to shifting technologies and global trends. Learning is an ongoing process in the ever-changing world of today; it doesn't stop at school or college. Students who embrace lifelong learning become capable of overcoming difficult challenges and contributing significantly to national growth.

2. Build Digital Literacy and Technological Skills

Digital literacy is vital in the 21st century. Students should develop skill in using computers, the internet, artificial intelligence, coding, data analysis, and other emerging technologies. These abilities boost their employability and enable them to contribute to India's digital development. By knowing technology and applying it effectively, students may engage in generating smart solutions for education, healthcare, agriculture, governance, and business, thereby increasing India's position as a global technology leader.

3. Focus on Innovation, Entrepreneurship, and Research

Research and innovation are important forces behind both national advancement and economic expansion. Students should be encouraged to investigate scientific studies, think creatively, and hone their problem-solving skills. Young people can start businesses, create jobs, and offer creative solutions to societal problems through entrepreneurship. Students may make a substantial contribution to making India self-sufficient and competitive on a global scale, whether through scientific discoveries, technical innovations, or entrepreneurial endeavours.

4. Practice Teamwork, Leadership, and Responsible Citizenship

Today's environment demands teamwork and strong leadership for success. Students should be taught how to respect different viewpoints, collaborate with others, and communicate clearly. They are more equipped to mentor others and make valuable contributions to society when they possess leadership traits like accountability, judgment, empathy, and integrity. Respecting the Constitution, abiding by the law, safeguarding public property, fostering social harmony, and engaging in community service are all components of responsible citizenship. These attributes contribute to the development of a cohesive and forward-thinking country.

5. Use Technology Wisely and Ethically for Learning and Nation-Building

Although technology is an effective tool, it must be used sensibly. Instead of using digital platforms for harmful or false information, students should use them for education, skill development, research, and creativity. Respecting privacy, preventing cyberbullying, upholding cybersecurity, and employing artificial intelligence sensibly are all examples of ethical technology use. Students can actively participate in India's development and digital future by using technology for social welfare, environmental conservation, education, healthcare, and government.

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IV. ROLE OF TECHNOLOGY

High-quality education is greatly aided by technology.

- Providing access to online learning resources and digital classrooms.
- Personalizing learning through AI and adaptive educational platforms.
- Improving collaboration between teachers and students.
- Reducing geographical barriers through virtual education.
- Supporting skill development aligned with future employment needs.

Role of Technology in Viksit Bharat (Developed India)

One of the most powerful foundations in realizing Viksit Bharat 2047's goal is technology. It is revolutionizing education, employment, communication, and innovation. Regardless of a student's location or background, technology in education guarantees that they receive high-quality instruction. Technology equips students with the information and abilities required for the future by combining digital tools, artificial intelligence, and online platforms. Additionally, it fosters creativity, innovation, and lifelong learning, which helps India develop a workforce that is competitive on a global scale.

1. Providing Access to Online Learning Resources and Digital Classrooms

Education is now more accessible than ever thanks to technology. Students can learn at any time and from any location with the use of online learning platforms, digital classrooms, e-books, instructional videos, and virtual lectures. Even people who live in isolated and rural places have access to top-notch educational resources from knowledgeable instructors and organizations. Through live debates, quizzes, and multimedia presentations, digital classrooms also make learning dynamic, resulting in a more captivating educational experience.

2. Personalizing Learning Through AI and Adaptive Educational Platforms

By providing individualized learning opportunities, artificial intelligence (AI) has transformed education. AI-powered learning platforms deliver personalized lectures, practice tasks, and feedback based on an analysis of each student's learning style, strengths, and shortcomings. Students perform better and comprehend things more efficiently as a result. Additionally, personalized learning guarantees that each student gets the assistance they require, increasing the effectiveness and inclusivity of education.

3. Improving Collaboration Between Teachers and Students

Through video conferences, online discussion boards, messaging apps, and collaborative learning tools, technology improves communication and teamwork between educators and students. No matter where they are physically located, students can engage in group projects, ask questions, turn in assignments, and get immediate feedback. Additionally, teachers can use digital assessment tools to track students' progress and offer timely guidance, which enhances the effectiveness and interactivity of the teaching-learning process.

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4. Reducing Geographical Barriers Through Virtual Education

The ability of technology to overcome geographical constraints is one of its biggest benefits. Students from underserved towns, isolated villages, or hilly areas can receive high-quality education virtually without having to move. Everyone has equal access to education thanks to webinars, virtual labs, online courses, and distant learning initiatives. This encourages educational parity nationwide and helps close the education gap between urban and rural areas.

5. Supporting Skill Development Aligned with Future Employment Needs

In order to prepare students for the quickly evolving work environment, technology is essential. Courses in cutting-edge subjects including artificial intelligence, data science, robotics, cybersecurity, cloud computing, coding, and digital marketing are offered by digital learning platforms. These courses give students industry-relevant skills that boost their employability and promote entrepreneurship. Technology contributes to the creation of a highly trained workforce that can propel innovation and economic progress in Viksit Bharat by fostering the development of future-ready capabilities.

V. CONCLUSION

The vision of Viksit Bharat is driven by educators. Their responsibilities go well beyond instructing students in academic topics. They encourage pupils to become responsible citizens, ethical people, creative thinkers, and lifelong learners. Teachers make a substantial contribution to the development of an informed, competent, inclusive, and advanced India by adopting contemporary teaching techniques, using technology, fostering values, and consistently honing their own abilities. Their commitment creates the groundwork for a wealthy country and a stronger society. The vision of Viksit Bharat 2047 is driven by students. They may help create a more powerful, intelligent, and inclusive India by fostering curiosity, embracing lifelong learning, developing digital skills, encouraging creativity, exercising leadership, and utilizing technology responsibly. Their commitment, ingenuity, and sense of duty will guarantee that India becomes a developed country that leads the world in knowledge, economic expansion, sustainability, and leadership. Technology is a catalyst for creating a Viksit Bharat, not merely a tool. In addition to preparing students for the demands of the digital age, it makes education more skill-oriented, individualized, inclusive, and accessible. India can create an informed, creative, and capable populace that can steer the country toward sustainable growth and global leadership by 2047 if it embraces technology responsibly and makes sure that its advantages reach every citizen.

Only when educators, learners, and technology collaborate harmoniously can the vision of Viksit Bharat be realized. Teachers offer direction and motivation, students offer zeal, creativity, and commitment, and technology improves the standard, accessibility, and efficacy of education. This cooperative approach develops a cutting-edge, inclusive, and future-ready educational system that empowers all students and produces a workforce that is knowledgeable, accountable, and creative. These three pillars work together to create the groundwork for an advanced, independent, and internationally competitive India.

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