

Impact of 21st Century Skills for Holistic Development of the Student

Syed Ramiz Yusuf¹, Sk Samirul Islam², Souvik Ghosh³,
Kabi Charan Hansda⁴

¹Master of Education (M.Ed.), Department of Education, The University Of Burdwan, West Bengal, India.

²Master of Education (M.Ed.), Baba Saheb Ambedkar Education University, West Bengal, India.

^{3,4}Assistant Professor, ABS Academy, Paschim Bardhaman, West Bengal, India.

Abstract

Today's education goes beyond rote memorizing and test preparation. It has become an excellent tool for assisting someone in adjusting to and succeeding in a fiercely competitive global world. Almost every aspect of how we live, works, and interact with each other has been impacted by modernization and globalization. Globalization has made nations and cultures more interconnected than ever before, while technology-driven modernization has reshaped industries and created new opportunities. Alongside these developments, there have also been challenges, particularly for nations like India, where there are a large number of educated youth without jobs and insufficient educational resources. The talents needed to succeed in this quickly evolving world are known as 21st century skills. In the past, the educational system emphasized teaching fundamental abilities like the three Rs and rote memorization. However, only having knowledge is insufficient in light of globalization, technological innovation, and labor market disruption. Critical thinking, problem solving, and skillful engagement are among the more complex abilities that people must exhibit. These abilities enable people to take on contemporary difficulties in both their personal and professional lives. The focus of the study how 21st century skill influence the students development. The study also focuses the major barriers to implement the 21st century skill in practical field means classroom scenario. The information for the study has been collected mainly from books, reviews, articles which were consulted during the study period.

Keywords: 21stcentrury skill, Problem Solving approach, Tech-savvy, Holistic Development.

Introduction:

The rapid advancement of technology has made 21st century abilities more important. Information spreads quickly as a result of the quick advancement of technology. Because of this, it is more crucial that students generate the information rather than memorize it and apply it to solve new problems. In the twenty-first century, every region of the world is seeing an increase in the usage of digital technology, which is now an essential element of daily life. As a result, a new generation of students has emerged those who were exposed to the effects of digital technology from birth (Sliva, E.2009). People must equip themselves with specific competences and skills due to the 21st century's rapid change and development. The information, skill, literacy, and competence required for people to succeed in the

workplace and in daily life are collectively referred to as 21st century skills. 21st-century talents revolve around fundamental school difficulties and 21st-century themes. The list also includes information technology skills, learning and innovation skills, and life and career skills. In this sector, there are also other classifications. The National Research Council divides 21st century skills into three categories: interpersonal skills (complex communication, social skills, teamwork, cultural awareness, and appreciation for diversity), intrapersonal skills like (self-management, time management, personal development, self regulation, adaptation, and management process and cognitive skills (critical thinking, non routine problem-solving, and systems thinking). According to Wagner (2008), students must specialize in seven survival skills in order to land a successful career. Interviews with numerous business leaders led to the determination of these survival skills. Critical thinking and problem-solving, teamwork and leadership, agility and adaptation, initiative and entrepreneurialism, effective oral and written communication, information access and analysis, and curiosity and imagination are among them (Wagner2008). As we've seen, there are various classifications for 21st century skills, but it's important to notice that the specific abilities associated with production and innovation are included in every classification. Social accomplishments, social sensitivity, and socializing skills are just a few of the 21st century abilities that have recently been the focus of numerous school researches. 1) The cognitive domain, which includes problem-solving, information construction, management, and usage. 2) The affective domain (self-identity, self-worth, self-control, and self-accountability), and 3) The socio cultural domain (social accomplishments, social membership, social sensitivity, and socializing abilities).

Review of Related Literature:

Kumar et al. (2022) examine how ICT (information and communication technology) contributes to the development of employable skills, highlighting the need of digital infrastructure and teacher preparation in rural education. **Mishra et al (2021)** showed in his research that students need to be skilled in digital tools, coding, and data analytics due to India's growing reliance on technology-driven industries. **Nair et al. (2019)**, graduates in India frequently lack communication and problem-solving abilities, necessitating curricular changes that prioritize soft skills and industry participation. **Ministry of HRD, Government of India, (2020)** Critical thinking, experiential learning, and technology literacy are emphasized as essential elements of future-ready education in the National Education Policy (NEP). **Voogt and Roblin (2012)** highlight the importance of digital skills and adaptability and contend that, in order to prepare students for the future, technology-based educational experiences must be integrated into all current educational systems. **Kim et al. (2019)**, in order to remain relevant in the global economy, East Asian educational systems that previously placed a strong emphasis on rote memorization are now implementing competency-based education. **Bell et al (2010)** in his research findings, traditional education systems that relied on rote learning and standardized assessments were unable to provide students with the necessary skills for today's challenges. Research from both the United States and Europe shows that incorporating 21st-century skills into current curricula enhances student engagement, creativity, and practical application of knowledge.

Needs of the Study

The aim is to enable today's student to be a good citizen and a responsible human being who is well-aware of his potential and competence. Learning is only complete and holistic when a student can

effectively perform and fulfill his or her responsibilities and duties toward self, school, family, society, and above all, the nation. The goal is to empower today's students to be responsible, good citizens, and self-aware individuals. When a student can successfully carry out and fulfill his or her responsibilities and duties toward oneself, school, family, society, and most importantly, the country, learning is only complete and comprehensive. This study necessary because it helps to explore the necessity, implementation and major barrier to implement 21st century skill among the students.

Methodology of this Research Work:

This study was purely theoretical based, and the study was also based on historical work. The literature review technique was integrated involving the policy analysis, organizational documents etc. The information for the study has been collected mainly from so many books, reviews, articles which were consulted during the study period.

Objectives of the Study:

1. To identify the 21st century skill in educational sector which is actually helps the student to reach the global benchmark.
2. To identify the challenges to implement the 21st century skill in the grass root level in the educational sector.
3. To investigate methods for incorporating these abilities into educational systems using digital tools, teacher preparation, and curriculum design.

Research Question

1. What are the 21st century skills necessary for the holistic development of the student?
2. What are major obstacles to implement these skills in the grass root level?
3. What are these methods should adopt by the institute to inculcate the students in educational sector?

Basic Concept Of the 21st century Skill

21st century skill refers to the broad set of knowledge, skills, work habit, that actually make the person globally competent and make the valuable human resource which ultimately enhance the productivity. Broadly 21st century skill divide into three major categories a) Learning skill b) Literacy skill c) Life skill.

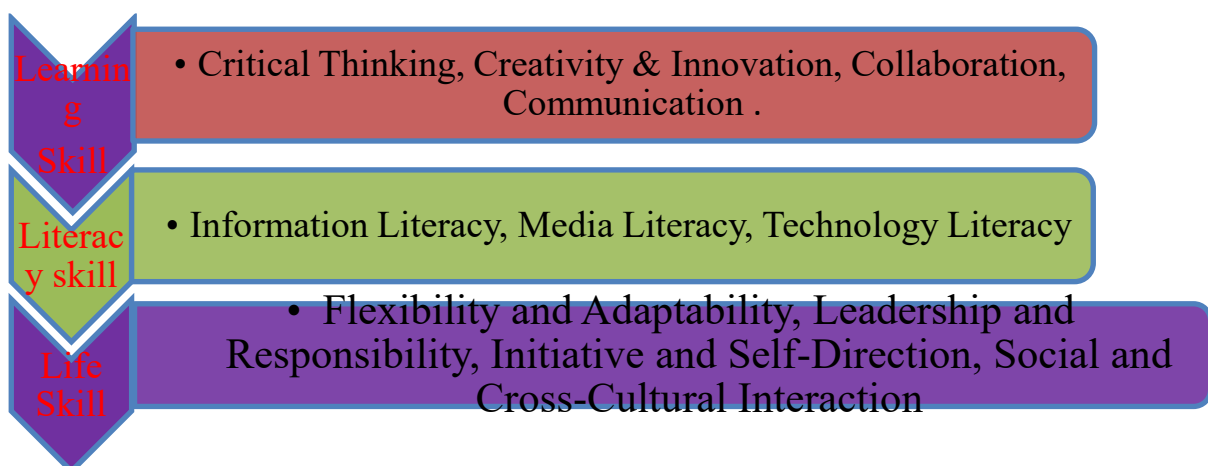


Fig: Classification of 21st skill

Different types of 21st Century Skill

- **Critical Thinking And Problem Solving:** Analyze the different perspective of a problem, making the correlation between different variable, and thinking rationally, and take the judgment perfectly in according to the context. And problem solving approach is the first identified the problem then develop the convergent thinking approach to solve the problem scientifically. This is very necessary to make the student street smart it means by applying the contextual intelligence any person can able to solve the problem quickly.
- **Creativity And Innovation:** Use various techniques like brain storming, group wise project method helps to develop the divergent thinking approach and innovative thinking among the students. This is very necessary because it gradually helps to develop the scientific temper and attitude among the students.
- **Collaboration:** Collaborative approach which enhances social skill, mutualism etc. Team is formed of different members. All are tried to work out the problem to reach the common goal or objectives. It also enhances the empathetic skill among the student. This helps to develop democratic values among the students.
- **Communication:** Verbal and non verbal communication is very necessary for sharing of thoughts, ideas, among the students which are very necessary to communicate in classroom as well as also society which makes the member globally competent.
- **Information literacy And Media literacy:** Different types of information are flow from different sources. This media and information literacy should be developing among the students. Because it helps the students how to manage the flow of the information, understanding the ethical issues and critically access and evaluation of the information. Understand and effectively use of expression in diverse multi cultural society.
- **Flexibility And Adaptability:** This is very necessary because it helps to develop the attitude to understand, negotiate and to develop the listening to others point of view. It is helps to create a respectful environment in classroom situation and it also helps to develop the democratic values among the society members. Adaptability is very much necessary for a member to cope up with any challenges and able to survive in any situation which is very necessary to makes a successful human resources.
- **Leadership And Responsibility:** By using interpersonal and problem solving skill a person can able to motivate other team members and solved the problem collectively which makes a team to reach the desired objectives. Leader can face any challenges by taking different accountability, it inculcation the leadership attitude helps to make today's student to valuable citizen in future for the nation .
- **Productivity:** Futuristic vision, set the goal, optimum utilization of available resources, scientific work management helps to enhance the productivity of organization. If skillful human resources are generated from the school level it also enhance the productivity of the country, so skillful human resources generation is one of the major factor for the progression of the nation.
- **Social And Cross Cultural Interaction:** Respect the differences, work with different person from the different cultural background working effectively helps to develop the democratic society. If this value inculcate among students through different project work or taken different program by the school helps to develop balance in the society.

Initiative taken By CBSE to inculcate 21st skill among the students

CBSE has taken various initiative to inculcate 21st century skill among student . Central Board of Secondary Education already initiate several program at institutional level for holistic means all round development of the student.

Aryabhata Ganit Challenge: The CBSE created this online test to make learning mathematics enjoyable. Children use analytical skills to think through and connect mathematical problems to real-world issues in this competition, which helps them build their critical thinking and problem-solving abilities.

Science Promotion Test: This competency-based assessment in science would help kids comprehend science more effectively and enjoyably by encouraging them to make connections between the science curriculum areas and real-life scenarios. The test would evaluate students' capacity for critical and logical thought.

Story Telling Competition: This competition was started in 2019 with the goal of giving kids the opportunity to use stories to convey ideas and subjects. For instance, using stories to illustrate adjectives and periodic tables.

Heritage India Quizzes :The CBSE (central Board of Secondary education) already introduced the Heritage India Quiz , is an interschool competition designed by the Board with the goal of encouraging students' interest in and desire to learn about and appreciate the history, tourism, and sharing of our nation's rich cultural heritage. It also fosters children's socio-cultural awareness.

Mandatory Art Integration: It is a cross-curricular approach to teaching and learning that is built on collaboration between the teaching of subjects and the teaching of art (visual, performing, etc.). In this method, art in all of its forms becomes the main means of learning the subject or topic as well as of assessment. By participating in various artistic endeavors and performing in groups, this promotes kids' creativity, teamwork, and social skills. This actually also helps to develop the psychomotor domain of the student which leads to the all round development of the student.

Science Exhibition: The Central Board of Secondary Education has been taking a number of steps to encourage students' curiosity and cultivate a scientific mindset. By connecting new ideas to preexisting concepts and enhancing one's understanding through the experiences and viewpoints of others, the activity seeks to give students a platform to demonstrate such discoveries that promote knowledge construction. Students' literacy skills will also improve as a result of this activity. Additionally, this will foster children's ability to think critically and creatively about topics and how to convey them.

Major Obstacle to implement these skills in the Grass Root level

Barriers are found mainly two types one is institutional barrier another is societal barrier. Generally these two types of barrier mainly create obstacle to implement the 21st century skill at grass root level.

Institutional Level: Traditional curriculum mainly focused on rote learning mostly they are not focused on critical thinking , problem solving approach. Not only the curriculum teachers are also followed the traditional pedagogy skill they are adopt the digital pedagogy. Limited infrastructure like shortage of smart classrooms, internet, wifi facility. Assessment mainly based on the memorization of facts rather than the skills (lack of brain storming method, collaborative approach, cooperative techniques etc) are also create barrier to implement the 21st century skill in the grass root level.

Societal Level: Lack of awareness it means the people till is time not fully understand the importance of the 21st century skill. Most of the parents prefer the traditional education system. Sharing of thought,

knowledge at global language is play one of the major key factor. Lack of communication skill among the students create barrier to cope with global scenario. A gap always found between industry and institution, this actually not provide the exposure to the students this leads to constrict the student within the periphery not make them global . Unequal access of technology and internet connectivity across the country create a digital divvied society. This is also create obstacle to inculcate 21st century skill among the students.

Conclusion

In the current era, globalization, cutting-edge technologies, and a multidisciplinary approach to problem-solving, knowledge, skills, and competencies have produced educational frameworks that are responsive to the requirements of learners worldwide. The development of education systems, which have historically focused on learning retention, is now necessary. In order to successfully address a variety of goals and complex issues like social inequality, economic disparity, technological disruption, global competition, and more, a wide range of competencies like critical thinking, creativity and innovation, collaboration, communication, digital literacy, and life skills are now essential. Skills for the 21st-century are therefore not merely a feasible approach to meet modern education needs but are perceived as a necessity in the life of society. Through the delivery of these skills to people, we can propel innovation, attain equity, and create an inclusive and sustainable future. It will be crucial in the future to make these skills the priority in education and workforce development to realize the potential of people and be successful in the 21st-century and beyond. The adequate infrastructural facility must be required to implement 21st century skill in ground level because infrastructural support helps to inculcate the skill among the students.

Bibliography

1. Kumbhakar, M., Kumari, S., & Kumar, R. (2024). Critical digital pedagogy: An innovative approach to enhance 21st century learning skills. *International Journal of Cultural Studies and Social Sciences*, 20(2), 153–164.
2. Gupta, R., & Agarwal, S. (2020). Digital literacy and employment outcomes in Indian higher education. *Journal of Emerging Technologies in Education*, 15(2), 34-47.
3. Kundu, P. (2020). Bridging the rural-urban education divide in India: A skills perspective. *Indian Journal of Educational Research*, 18(1), 29-45.
4. Ministry of HRD, Government of India. (2020). National Education Policy 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf.
5. Nair, R., Menon, S., & Sharma, K. (2019). The role of soft skills training in enhancing employability in Indian higher education institutions. *Journal of Education and Work*, 32(4), 287-299.
6. Redecker, C., & Punie, Y. (2017). Digital competence of educators: Identifying key components for future learning environments. *European Journal of Education*, 52(2), 123-139.
7. Sharma, R., & Singh, P. (2018). Skill based education: A pathway for bridging academia and industry in India. *International Journal of Education Research*, 9(3), 112-128.
8. Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st-century competencies. *Educational Research Review*, 7(3), 215-233.
9. Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, 19(4), 451-464.

10. Mishra, P. (2021). Digital literacy and education reform in India: The pathway to 21st-century skills. *Indian Journal of Educational Technology*, 14(1), 25-38.
11. UNESCO. (2015). Global citizenship education: Topics and learning objectives. <https://doi.org/10.54675/DRHC3544>.
12. Silva, E. (2009). Measuring skills for 21st-century learning. *Phi Delta Kappan*, 90(9), 630-634. <https://doi.org/10.1177/003172170909000905>.
13. Kim, H., Park, H., & Lee, J. (2019). Competency-based education in East Asia: A comparative study of policies and implementation. *Asian Journal of Education*, 40(3), 290-310.
14. Bell, S. (2010). Project-based learning for the 21st-century: Skills for the future. *The Clearing House*, 83(2), 39-43.
15. Wagner, T. (2008). The Global Achievement Gap: Why Even Our Best Schools Don't Teach the New Survival Skills Our Children Need, and What We Can Do about It. *New York: Basic Books*.
16. Foulger, T.S., Graziano, K.J., Schmidt Crawford, D. & Slykhuis, D.A. (2017). Teacher Educator Technology Competencies, *Journal of Technology and Teacher Education*, 25(4), 413-448.
17. Kumbhakar ,M.M. & KUMAR, N. (2025). 21st Century Skills: What, Why, and How? . *Telangana Journal of Higher Education* ,1(1),70-79.
18. Marginson, S. (2017). The global stratification of higher education and the role of the state. *Journal of Education Policy*, 32(4), 438-456.