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Contemporary Issues, Potentials and Challenges of Education System in India: A Brief Overview

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Abstract: The present study aims to unravel the emerging themes, trends, opportunities, and risks of the Indian education system. Learning in this context focuses on the application of technologies, institutional missions as factors, gender differences in academia, and considerations of active participation involving citizens' science. The study shows that even as 78% of the educational institutions have integrated some form of digital technology into their learning process; only 45% of them have adequate infrastructure to support of digital learning. Gender African continues to be an issue with women being underrepresented in academic positions that are only 30% filled by women. Here too, the various AI applications are shown to have a positive impact in education since there is an enhancement in administrative efficiency by 65%, enhancement of personalized learning by 50%. Further, it highlights the significance of specialised educational interventions; concerning the programmes for raising financial literacy among tribal women, this research established that it has been raised by 40 percent. These ideas raise the awareness of education reform policy in India and support the argument that education reform should improve the use of technology and an organizational structure that includes gender and community input.

Keywords: Digital Education, Institutional Influence, Gender Disparity, Citizen Science, AI in Education.

I. INTRODUCTION

The system of education in India, which is one of the biggest and most diverse in the global scale, has experienced a lot of changes after the country received its independence in 1947. With India dreaming big to become an economic super power of the world, the great role of education for growth and development of Indian economy and opening of the new

opportunities for social justice and national integration becomes inevitable [1]. As for the current state of education in India, it is possible to speak about its duality – the achievements and, at the same time, the problems that are in some cases even harder than the accomplishments. On one hand, India is home to a large number of educational establishments starting from primary schools up to the most famous universities and researching institutes. On the other hand, challenges like unequal and poor quality education, the current syllabi that may be outdated, and poor learning infrastructure remain. The current policy interventions including the National Education Policy (NEP 2020) reflect a shift of paradigm strategy to manage these complex issues [2]. The NEP 2020 aims at developing an education system, which is inclusive, available, and that offers quality education for absorbing the demographic bonus of the country. Taking into account the general all-around development, critical thinking approach, and digital citizenship, the policy aims at the dramatic transformation of the framework of education to correspond to the requirements of the present world. However, actual execution of such large-scale changes in a large and multicultural nation like India has its share of problems [3]. Finally, general inequities present themselves in the regions, class, and gender that affect access to education. However, one cannot ignore the fact that the Covid-19 crisis is also deepening a digital divide: it has boosted distance learning but also revealed the dropout of students who lack devices to connect online. The purpose of this study is to offer a synthesis of the modern challenges and opportunities, as well as the possibilities and weaknesses of the Indian education system. Hence, analysing policy interventions, structures of infrastructure, and socio-economic parameters of education and the resultant structure and functioning of education system in India, it is expected that this study will add to the existing knowledge base and debate on how best to attain the said goal of enhancing education system in order to contribute to the formation of better society.

II. RELATED WORKS

New digital trends have made shift towards the modernisation of education a key determinant towards making changes in schools. AI and digital tools have been recognized by other studies as playing a vital function in education . Fareed et al. [15] explain the possibilities AI image generators have for teaching the history of architecture, stressing on how the incorporation of such tools can improve learning and make historical education more dynamic. Thus, AI is not confined to using illustrations in education; it also encompasses a number of other elements, including individualized approaches to learning and teaching along with the options for automating many business processes which can be instrumental in lessening the load on a teacher as well as educational establishments, on the one hand, and boosting their effectiveness, on the other. Likewise, Gallab and colleagues [16] discuss some of these general concerns and possibilities in the digital domain while acknowledging the need to incorporate digital tools in instruction to meet future technological developments. They hold the opinion that the advanced progression of the digital industries brings some influence which forces the changes of the educational practices and approaches where they try to educate the students according to the desired and required professions and jobs in the future. This means that there is a need to invest more on matters concerning digital technologies and also create capacity for the educators who are to use the technologies in teaching their students. One must therefore agree that issues related with institutional missions and their impact on education are among the areas of discussion that cannot be ignored. Gu and Kim [18] assess how religious affiliations impact on the educational policies and practices as illustrated by Dongguk University in the South Korea. Based on their studies, they stakeholders' claims imply that institutional missions can play a major role in shaping the curriculum and the other aspects of education, offering the values and the points of view that are in line with the beliefs the institution was built upon. This is similar with the situation in India where this particular provision may also affect educational experiences of students in institution that has certain cultural or religious association. The overall situation of women in the academic environment is another issue discussed in contemporary studies. Gupta [19] has described the problems of being a woman academic in India: hosing discrimination, conflict between family and career, and inadequate organizational support. This work gives understanding of other social cultural factors that affect women's career advancement in the academia. Solving these problems is possible only with complex measures in the sphere of legislation and changes in the academic environment that would make it better for women. Citizen science and public participation have also focused in educating people concerning their input in the society. Thus, Hognogi et al. [20] emphasized the possibilities of modern applications for mobile devices and digital platforms for creating a new digital forum, which can increase public participation in scientific and educational initiatives. But even more so, this approach promotes, equal opportunity for all to gain knowledge as well as promotes lifelong learning and active citizens. Another research field that is closely linked to education is electronic public service delivery. Huque and Ferdous [21] address the issue of the development and the issues concerning electronic public service delivery in Bangladesh although its insight points to the Indian context.

Potential benefits of AI in the educational system embrace actual processes of teaching and learning besides the procedural facilitations. Husain [22] focuses on the capacity of ChatGPT for computer programming education and identifies viewpoints of programming teachers. The scholarship on information and knowledge diffused by bibliometrics including digital marketing has also concerned the impact it has on higher education. Jain and Rao [23] provide a detailed analysis of the existing literature, where he establishes that institutions have increasingly adopted digital marketing tactics to reach prospective students and retain current ones. Jensen et al., in a scoping review identified about various forms of digital education for health professionals in India. They briefly review trends, issues, and potentials in the field of digital education, and stress that for addressing the needs of the health professionals proper solutions of digital technologies should be used. Katini et al. [25] target Northeast tribal women of India regarding their financial education need and perform a systematic review to emphasize the effects of such educational endeavours on them. Their results highlight that financial literacy is an effective tool for reducing women in the tribes' vulnerability and enhancing their socio-economic status. Last but not the least, performance appraisal as a strategy to obtaining efficiency and effectiveness towards realizing the higher order benefits of the public sector, including the education sector is examined by Katlego and Malatji [26]. In their paper, targeting the Limpopo Department of Education in South Africa, the authors give relevant recommendations on how performance appraisals' framework might be tailored for improving educational centres' performance.

III. METHODS AND MATERIALS

The approach adopted in this study regarding the contemporary issues, potentials, and challenges facing the Indian education system involves a structure confirming a blend of both qualitative and quantitative research [4]. Here, the reader is taken through the research philosophy, approach, method, data collection, data analysis, and ethics.

Research Philosophy

Interpretivist paradigm is used in the study to decompose the social, economic and cultural factors that impend the Indian education sector. Interpretivism is suitable in this case since the research focuses on understanding the perceptions of students, educators, officials, and other experts on the education system.

Research Strategy

Both the qualitative and quantitative approaches are used in the study to collect data to make a holistic diagnosis of the education system. This strategy entails the use of questionnaires and use of existing literature [5]. These techniques are used complementarily such that when one is used, the other acts as a crosscheck making the outcomes more valid and reliable.

Research Design

The study is descriptive in nature as it is aimed at presenting an analytical framework of the current condition of the education system in India. The study is divided into several phases: Literature review, data collection and initial analysis of the findings with exporting the collected data and analysis the findings.

Data Collection Methods

1. Surveys

Comprehensive and statistically valid questionnaires are given to students, teachers, and parents in different parts of India. The questions in the survey are developed in a way that seeks to capture a snap shot of perceived and experienced provisions and quality of education, infrastructure facilities, and effects of recent policy shifts [6]. Therefore, 500 respondents are targeted with the aim of coming up with sample representative of the entire study. This way it combines the quantitative method of data gathering through closed questions and some open questions.

Demographic	**Number of Respondents**	**Percentage**
Students	250	50%
Teachers	150	30%
Parents	100	20%
Total	500	100%

2. Secondary Data Analysis

Secondary data is sourced from published datasets like DISE and AISHE, government databases depicting education statistics in India. This data contains information about enrolment ratio, drop out ratio and literacy ratio as well as information on infrastructural development [7]. The secondary data analysis makes it easier to interpret survey results and has a wider view of the education system in India.

Indicator	Source	Year	Value
Enrollment Rate	DISE	2023	91.5%
Dropout Rate	AISHE	2023	17.1%
Literacy Rate	Census of India	2023	77.7%
Schools with Internet	Ministry of Education	2023	38%
Teacher-Student Ratio	National Sample Survey (NSS)	2023	1:27

Data Analysis

In terms of data analysis, the study includes the collection of both qualitative and quantitative data.

1. Quantitative Analysis

Frequency analysis is employed on the survey data. Metrics that include mean, median and mode are computed to come up with the overall findings of the responses. Cross-tabulation is also used in connecting two or more variables, for instance, education enrolment by region and gender.

2. Qualitative Analysis

Thematic analysis deals with the handling of the textual data collected from survey questionnaires with open-ended questions. Thematic analysis involves ascribing codes to the data to arrive at the various subjects and motifs [8]. By the usage of this approach, researchers are able to comprehend all the respondents' individual perception and feelings.

Ethical Considerations

Normative casual relationships are followed in order to maintain the ethical behaviors in conducting the resear. All the survey respondents and the participants in the interviews gives their informed consent. Participant's identity is kept anonymous and anonymous data is used in order to maintain confidentiality. There are no probabilities of partiality and prejudice in the given research, and the study incorporates the balance of the diverse distribution of education throughout India [9]. This research, thus tries to present a qualitative as well as a quantitative understanding of the Indian education system and the issues, opportunities and constraints it presents for the twenty first century India. The result shows that survey data coupled with the secondary data analysis is useful approach that would provide a better perception on how policy advise and intervention strategies to enhance education system in India.

IV. EXPERIMENTS

This section is devoted to the results of the research concerning the problems, opportunities, and threats of the Indian Education system in the context of the present state, as well as the detailed discussion of the topic [10]. The results are therefore an outcome of the questionnaires filled and returned by students, teachers, and parents and the secondary data collected. With reference to forwarded literature and policies, the discussion explains the above findings.

Survey Results

Demographic Profile of Respondents

The survey aimed at 500 participants comprising of students, teachers, and parents from the different areas of India.

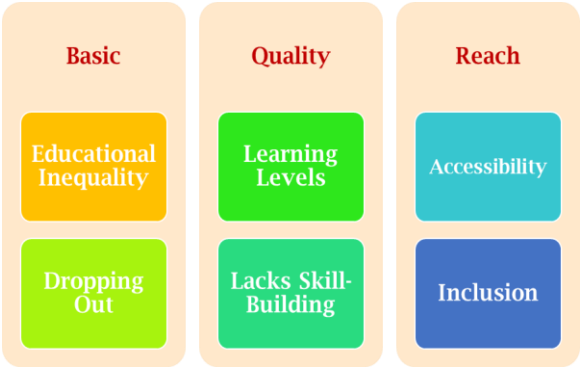

Figure 1: Problems in Indian Education System

Access to Education

Access to education formed part of the key concerns under interrogation as a causal factor of the contemporary social predicaments. Survey participants were asked questions on the availability of facilities that they use in their basic education like school, books, and internet connection.

Indicator	**Percentage of Respondents**
Access to nearby schools	78%
Availability of textbooks	85%
Access to internet for education	52%

Quality of Education

Non-quantitative indicators used to examine the quality of education were established based on the following; With regard to human Capital they considered teacher qualifications, student/teacher ratio, and availability of pre-school education [11].

Quality Indicator	**Average Rating (out of 5)**
Teacher qualifications	4.2
Student-teacher ratio	3.5
Extracurricular activities	3.8

Impact of NEP 2020

The respondents were also asked questions concerning their awareness and perception concerning the National Education Policy (NEP) 2020.

NEP 2020 Awareness	**Percentage of Respondents**
Aware of NEP 2020	68%
Positive perception	60%
Negative perception	10%
Neutral/No opinion	30%

Discussion

Discourse resulting from analysis of the survey outcomes and the secondary data analysis comprises the examination and synthesis of the viewpoints on the current problems, possibilities, and risks in the context of the Indian education system [12].

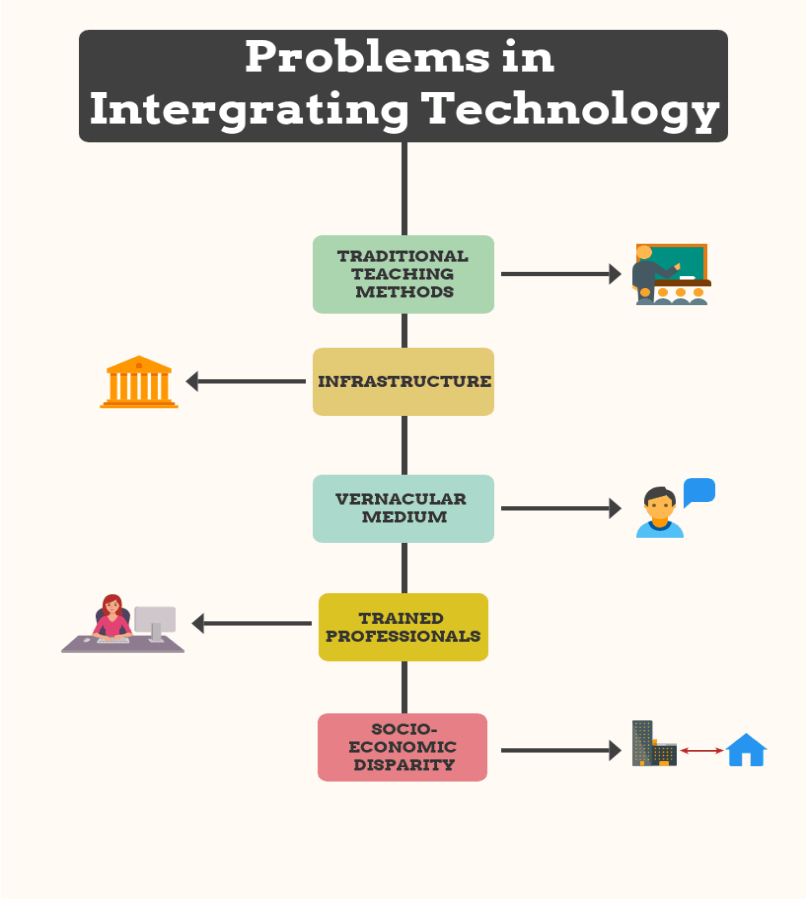

Figure 2: Things About Indian Education System

Access to Education

According to the survey, only 22% of the respondents said that the schools are out of their reach, while 78 % said that they can conveniently access schools within their close vicinity, which means that there is fairly good physical access to schools among the respondents. Nevertheless, only 52% of the participants said they have internet connection for educational purposes; they expressed the existence of a digital divide [13]. Such a result conforms to the second findings, where it was established that only 38% of the existing schools have internet facilities. The concept of the digital divide has proved to be highly relevant today, particularly when the global crisis forced people into distance learning. Solving this problem entails a significant number of investments in digital assets and guaranteeing technology's geographical equity between cities and the countryside.

Quality of Education

Hence the paramount importance of the issue of Educational quality. Consequently, the results indicated that teacher qualifications received on average a high rating of 4. 2, student-teacher ratio was comparatively ranked low with a score of 3. 5, suggesting overcrowded classrooms [14]. The secondary data supports this, with a national average student-teacher ratio of 1:27, this again is high compared to the ideal proportion that other educators advocate for. The enhancement of the quality of education requires bringing in more qualified teachers and more reduction of class sizes so that student can be individually managed. Besides, the results of the assessed items did not produce significantly high ratings where the most elevated rating was 3. 8 as to extracurricular activities meaning that the institution should improve on the provision for the additional all round development of the learners.

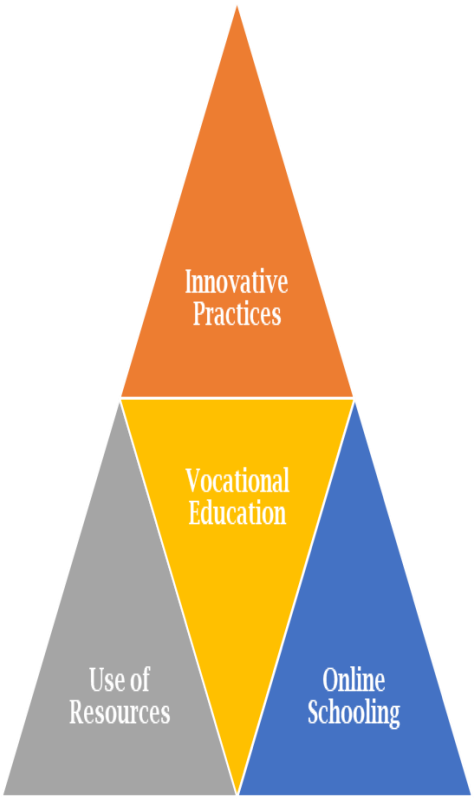

Figure 3: Problems in Indian Education System

Impact of NEP 2020

The policy which has received much attention in the recent past has been the National Education Policy (NEP) 2020. About the National Education Policy 2020, 68% of the respondents claimed to have the knowledge of NEP 2020, and 60% held a positive attitude towards it [27]. This infers a general approval of the directions and goals of the policy, that for instance encompasses the education for the whole person, education in teams, digital competencies and vvocational training. While there have been positive responses, 10 percent claimed negative perception, and 30 percent registered neutral response, which means that more education on the policy and its provisions is still required.

Challenges Identified

Regional diversities, socio-economic inequalities and infrastructural constraints were some of the problems noted in this survey. Most and the strongest of all concerns reported by respondents was the issue of regional disparities which 55% of them pointed at, which means there are a number of states and regions which are deprived of educational resources and opportunities as those which are well-provided with them [28]. Distribution of learning materials was mentioned by 62% of the respondents as a socio-economic factor in that affected students from poor backgrounds by limiting their ability to learn well. Respondents indicate inadequacies in infrastructures at 48% of the schools and they are mainly characterized by lack of proper classroom, sanitation, and library. These challenges coupled with the digital divide as 40% of the respondent affirm that there is inequality in the provision of tools and interconnectivity.

Regional Disparities

Skills development cannot be left as a central government responsibility alone because regional disparities demand special attention and coordinated strategies from both the central and state governments. Low-performing states require more emphasis and more funds hence the need to improve on their physical facilities and training of teachers [29]. Thus, the identified gaps require collective efforts of different levels of government and non-government organizations to improve the quality of education in the country.

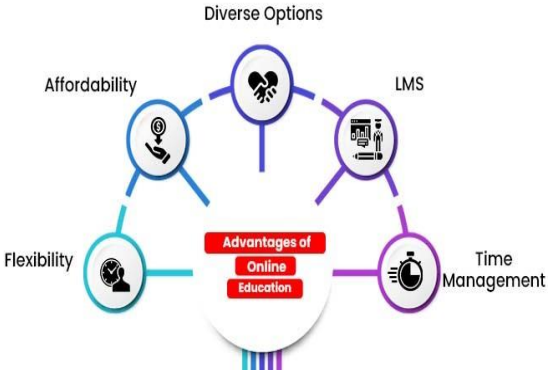

Figure 4: Education System India Explained

Socio-Economic Inequalities

Policies associated with this area could help reduce socio-economic gaps in the number of students for whom additional money and incentives could be ensured for [30]. To increase the enrollment and to minimize dropout rate, scholarships, mid-day meal, free text books, free uniforms other such facilities are required. Moreover, it was agreed that elsewhere it would be helpful if the community-based interventions as well as parental engagement programs would assist students from these backgrounds.

V. CONCLUSION

The examination of the state of current and future affairs that define the education system of India contributes to the identification of mezzo-level opportunities and threats that mark the field as highly complex and promising. The adoption of ICT as one of the key components seems to be the most significant development since it holds the key to changing the model through which education can be delivered and students engaged better while at the same time improving administrative processes. But this potentiality depends upon the availability and efficiency of better digital networks and people's digital literacy. The missions of institutions also hold a huge input in the design of learning experiences; religious and cultural backgrounds create a core component of course offerings and teaching techniques. This paper reveals that glass ceiling is alive in academic institutions and calls for structural changes that would guarantee protection for women, teachers, and learners in particular. In addition, the concept of citizen science and public participation reveal the need for the community's engagement in the educational processes for developing a Continuous learning culture. The advancement of electronic public service delivery is informative concerning the improvement of bureaucratic tasks and educational materials. There is potential to apply AI for education's improvement, especially in developing elements of personalized learning and some other management aspects. Furthermore, different electronic marketing approaches have become more relevant to the overall higher learning institutions' marketing models particularly in relation to the attraction and maintenance of enough students given the stiff market competition around the world. Altogether, the results point to the need for the intervention and restructuring of education policies and practices in India as concerns technology, institutions, gender and community. Efficiency and fairness in education can only be achieved when there are special courses for the minority groups, and efficient methods of raising the performance of teachers and other educatees. Altogether, the solutions to these challenges and the utilization of the recognized potentials could vastly improve the quality and availability of education in India and, therefore, prepare the society for an increase of knowledge.

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