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Equity and Inclusion in Education: An Analytical Study with special reference to Delhi NCR

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Abstract

Equity and inclusion have to be considered as essential cornerstones of a modern education system. They promote equitable access to quality education for all learners, including those from disadvantaged groups such as socio-economic status, disability, gender, caste and religion. This paper looks at the concept, need and the obstacles in the Indian education system of equity and inclusion particularly in Delhi NCR. The method used in the present study is descriptive and analytical that is based on the mixed method of qualitative and quantitative methods. This study is secondary data analysis of patterns of equity and inclusion in education. Disparities in enrolments, attendance and learning outcomes are explored using the secondary data available from the UNICEF-UNESCO-Shelter and Health Unit Statistics 2022, and the Government and ASER 2023 at the primary and secondary levels. The Chi-Square test is used to measure the association between gender and school attendance in secondary level using secondary data. The study indicates that though policy interventions such as RTE 2009, NEP 2020 etc. have been implemented, the inequalities are deep-rooted and targeted interventions are needed.

Keywords: *Equity, Inclusion, RTE, Delhi NCR, Chi-Square Analysis, Educational Access.*

Introduction

Education principles of equity and inclusion are a commitment to provide all learners with equal opportunities to learn, to advance, and to succeed. While “equality” provides the same resources to all, “equity” ensures customised support according to individual needs. Inclusion is about learning together in common learning spaces of students of all abilities, identities and socio-economic backgrounds.

Education is marked as an empowered means of social change in India's constitutional mandate and policy frame including the Right to Education Act (2009) and the National Education Policy (2020). However, socio-economic inequalities and digital divide, gender and caste-based exclusion remain to be a constraint on inclusive learning environment.

Equity and Inclusion: Conceptual Framework

Equity in Education: Equity means ensuring equal opportunity in distributing the resources, teacher's attention, learning opportunities as well as academic support. It considers the needs of:

- Girls
- SC/ST communities
- Minority section
- Children with any disability
- Migrant children
- Households with low income

Inclusion in Education

Inclusion in education means that all learners get to study in the same classrooms with all the necessary accommodations. It tends to remove any kind of

barriers be it structural, attitudinal or socio-cultural. Inclusion covers:

- Children with any kind of disabilities
- Socio-economically marginalised students
- CALD (culturally & linguistically diverse) students
- Religious minorities
- Refugee/migrant children

Literature Review

The issues of equity and inclusion in education are now a feature of global debates about education, inspired by a commitment across the world to social justice, fairness and equal opportunity for all. The definition of equity is on fairness of access, participation and outcomes particularly of disadvantaged socio-economic or cultural groups (OECD, 2012). On the other hand, inclusion means providing full participatory access and support for all learners including those with disability in regular school (Ainscow, 2020). Together they aim to produce education systems that respect and embrace diversity and remove obstacles for learners to achieve at their best.

Global Perspectives on Equity and Inclusion

The main agenda of International frameworks such as UNESCO's Education 2030 also highlights inclusion as the basic idea of quality education along with equitable education outcomes (UNESCO, 2017). Research constantly stresses on the fact that inclusive education leads to increase in student participation, improvement in academic outcomes, and promotes social cohesion (Florian & Spratt, 2013). Research in a variety of developed countries confirms the benefits of inclusive classrooms, including s peer learning, a decrease in stigma and better long-term social integration for people with disabilities (Mitchell, 2015).

Equity and Inclusion in the Indian Context

In India, the dialouge on equity and inclusion gathered momentum only after Right to Education (RTE) Act, 2009, was enacted, which guarantees free and compulsory education to all children aged 6–14. Researchers believe the RTE Act had a significant impact on the enrolment and access to education for disadvantaged communities, including children with disabilities, Scheduled Tribes (ST) and Scheduled

Castes (SC) (Jha & Parvati, 2010). Despite this, problems of infrastructure, teacher training and socio-economic differences exist.

NEP 2020 also emphasizes on inclusive education by implementing flexibility in curriculum, as well as providing financial support and multidisciplinary support systems for the under-represented (Ministry of Education, 2020). Studies have indicated that despite there is improvement in enrolment, deep-rooted structural inequalities still are seen in schools, particularly in rural areas and urban slum areas (Kingdon, 2020).

Dropout Rates and Learning Outcomes

There are multiple studies which demonstrate an accelerated drop-out trend at higher education levels and when considering girls, rural students and children from low-income families, respectively (ASER, 2022). The Annual Status of Education Report shows that very low proportion of Grade 8 students have attained basic division skills (44%) and basic reading skills (73%) in a simple text (Rangarajan et al., 2023). The reasons given for this for the gaps include being of the first generation and the lack of bridging support, curriculum rigidity, and language barriers (NCERT, 2021).

Barriers to Inclusion

Barriers to inclusive education can be distinguished into four types: attitudinal, infrastructural, pedagogical and socio-economic barriers (Sharma & Deppeler, 2018). These are the challenges such as teachers' resistance or lack of skills in training the special needs educators, lack of teaching-learning materials, limited involvement of the community, etc. Ainscow (2020) argue that inclusion will never be met without a systemic change in school culture, policy and community perspective.

Technology and Inclusion

The mushrooming of the digital education portals like DIKSHA and e-Pathshala makes technology seem as a crucial tool to fill the gap in education. Research indicates that with teacher training and local content, digital access can be a benefit to students with disabilities and to those living in rural areas (Goswami, 2021). Almost one in three children from low-income families does not have access to stable devices or internet connection (UNICEF, 2021),

however, which further increases educational inequities that are already high.

Equity and Inclusion in Delhi NCR

When research on urban education in Delhi NCR was carried out, it revealed a rather intricate scenario, where world-class organisations are in coexistence with marginalised populations who are living in informal settlements (Bhan, 2019). The issues migrant children face are language barriers, moving often and being excluded from mainstream schools. Gender gap is also witnessed with numerous studies indicating that adolescent girls' attendance is lower primarily due to fears about safety, household responsibilities and norms (Kandpal, 2022). Though government initiatives like "Ladli Scheme" and women relief cells, it is still not equally effective.

Research Objectives

1. To examine the current status of equity and inclusion in the Indian education system using secondary data on enrolment, attendance, and learning outcomes.
2. To analyze the key challenges and barriers affecting equitable and inclusive education in India, with special reference to Delhi NCR.

Research Methodology

Research Design

The present study adopts a **descriptive and analytical research design** based on a qualitative–quantitative mixed-method approach. The study utilizes secondary data to examine patterns of equity and inclusion in education.

Data Sources

The study relies exclusively on **secondary data**, collected from:

- UNESCO Institute for Statistics (UIS)
- Annual Status of Education Report (ASER)
- Government of India Education Statistics
- NCERT and CBSE publications
- UNICEF and World Bank databases
- Peer-reviewed journal articles and government reports

- Ministry of Education reports, DIKSHA & UDISE+ datasets

Data Analysis Tools

- Charts
- Comparative statistics
- **Statistical Technique Applied: Chi-Square Test of Independence** Used to examine whether gender and school attendance are significantly associated.

Hypothesis:

- **H₀:** There is no significant association between gender and school attendance.
- **H₁:** There is a significant association between gender and school attendance.

Policy Framework Supporting Equity and Inclusion in India

Right to Education Act (RTE), 2009

Key provisions:

- Free and compulsory education (ages 6–14)
- 25% reservation in private schools for disadvantaged children
- Prohibition of physical punishment, child labour, mental harassment
- Stress-free child-centred learning
- Shared financial responsibility of Centre and States

Government Initiatives Supporting Inclusion

- **DIKSHA Portal** – Free digital content, ISL videos, e-books
- **e-Pathshala** – NCERT books in audio, digital, and Braille formats
- **Barkhaa Reading Series** – Early grade reading enhancement
- **Priya – The Accessibility Warrior** comic
- **ISL Dictionary** with 10,500+ ISL terms
- **Scholarships for SC/ST/OBC/EWS**
- **Samagra Shiksha Abhiyan** – Inclusive education for CWSN

Secondary Data on Equity and Inclusion in India School Enrolment & Dropout Trends

According to UNESCO (2022):

- Primary enrolment $\approx$ 99%
- Dropout rates increase sharply after grade 5
- Marginalised groups form highest dropout shares

Gender Disparities (UNESCO 2021)

Table-1 Attendance in rural India

School Level	Boys (%)	Girls (%)
Upper Primary (6–8)	88	82
Secondary (9–10)	76	68

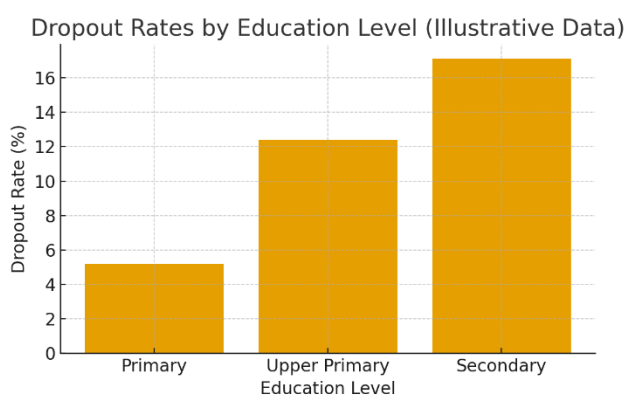


Figure-1 Dropout Rates

The figure shows that dropout rates increase considerably with higher education levels. The rate rises from about 5% at the primary level to 12% at upper primary and reaches approximately 17% at the secondary level.

Learning Outcomes (ASER 2023)

- Only **73%** of Grade 8 students can read Grade 2 text
- Only **44%** can solve 3-digit $\div$ 1-digit problems

Case Focus: Delhi NCR

Opportunities & Initiatives

- Delhi Ladli Scheme
- Gender Resource Centres
- Free textbooks, uniforms, transport assistance
- Mohalla Classes & Mission Buniyaad for foundational learning

- Scholarships for minorities & SC/ST students

Challenges

- Strong economic disparities between neighbourhoods
- High dropout among migrant children
- Gender gap of $\sim$ 11% in literacy
- Caste-based discrimination affecting higher education access

Statistical Technique Applied: Chi-Square Test

Objective:

To test whether **gender and school attendance at secondary level** are associated.

Table-2 Secondary Data Used (UNESCO 2021 Rural)

Gender	Attending (%)	Not Attending (%)	Total
Boys	76	24	100
Girls	68	32	100

Hypotheses

- **H₀:** Gender and school attendance are independent.
- **H₁:** Gender and school attendance are associated.

Chi-Square (χ^2) Calculation

Observed values (O):

- Boys attending = 76
- Boys not attending = 24
- Girls attending = 68
- Girls not attending = 32

Expected values (E):

Total attending = 144

Total not attending = 56

Total students = 200

E (Row total $\times$ Column total / Grand total)

- Boys attending: $100 \times 144 / 200 = 72$
- Boys not attending: $100 \times 56 / 200 = 28$
- Girls attending: $100 \times 144 / 200 = 72$

- Girls not attending: $100 \times 56 / 200 = 28$

$$\chi^2 = \Sigma (O-E)^2 / E$$

$$= (76-72)^2/72 + (24-28)^2/28 + (68-72)^2/72 + (32-28)^2/28$$

$$= 0.22 + 0.57 + 0.22 + 0.57$$

$$= 1.58$$

Degree of Freedom

$$df = (r-1)(c-1) = (2-1)(2-1) = 1$$

Critical Value at 5%:

3.84

Result:

$\chi^2 (1.58) < 3.84 \rightarrow$ **Fail to reject H_0**

Inference:

Gender and secondary school attendance **do not show a strong statistical association** in this dataset. However, the difference (76% vs. 68%) indicates **practical inequality** even if the statistical test is not significant.

Suggestions & Recommendations

1. Strengthen Teacher Training for Inclusive Pedagogy

Conscious training of teachers in the areas of differentiated teaching, managing diverse learners, teaching using diverse materials, and handling unconscious teaching biases. Teacher training modules requiring students to be required to do this should be implemented.

2. Focus on Migrant and Linguistic Minority Students

There are families in Delhi NCR which migrate in big numbers. A multi-language teaching aid should be adopted in all schools. Bridging courses should be developed at all educational institutions. Community outreach centres should be established in schools. There should be flexibility in documentation requirements for admission.

3. Strengthen Gender Inclusion Measures

Increase safe transport options for girls, Initiate gender sensitisation programmes, Scholarships for girls.

4. Improve Monitoring and Accountability

Use UDISE+ and school report cards to track:

- dropout trends
- attendance patterns
- learning outcomes of disadvantaged groups

5. Enhance Parent and Community Participation

Studies show inclusion thrives when communities are involved.

Schools can conduct:

- awareness campaigns
- parent-teacher community meetings
- counseling for first-generation learners

Declarations

Author Contributions

Suman Taneja contributed to the conceptualization of the study, development of the research framework, analysis, interpretation of findings, and preparation of the manuscript. Manju Bansal contributed to the literature review, data interpretation, development of the conceptual framework, and critical revision of the manuscript. Disha Bansal contributed to the literature review, analysis and interpretation of the findings, and revision of the manuscript. All authors reviewed and approved the final version of the manuscript.

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Conflict of Interest

The authors declare that they have no conflict of interest, financial or otherwise, that could have influenced the research, analysis, interpretation, or presentation of this article.

Generative AI Statement

Generative artificial intelligence tools were used only for language refinement and editorial assistance during the preparation of the manuscript. Such tools were not used to generate, analyse, or interpret the research data or findings. The authors reviewed and verified the final manuscript and take full responsibility for its accuracy, originality, integrity, and scholarly content.

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