



Impact of Inclusive Education on Academic Achievement and Social Skills

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Abstract-- This quasi-experimental study examined the impact of inclusive education on students' academic achievement and social skills. A sample of 100 students (50 in inclusive classrooms, 50 in traditional classrooms) was assessed with pre- and post-academic achievement tests and a social skills scale measured at post-test. Analyses included paired t-tests (pre vs. post within groups) and independent t-tests (between groups). Results from the simulated dataset showed significantly greater academic gains and higher social skills scores for the inclusive group compared to the traditional group. Educational implications, limitations, and directions for future research are discussed.

Keywords--Inclusive education, academic achievement, social skills, inclusion, quasi-experimental study

I. INTRODUCTION

Inclusive education, defined as the practice of educating students with and without disabilities together in mainstream classrooms with appropriate support systems, has gained significant global recognition as a means to promote equity, participation, and quality education for all learners. Rooted in principles articulated in international frameworks such as the Salamanca Statement (1994) and subsequent UNESCO guidelines, inclusive education extends beyond mere physical placement of students with disabilities into general classrooms. It emphasizes meaningful participation, individualized support, and the creation of enabling learning environments that address diverse needs. One of the central arguments in favour of inclusive education is its potential to enhance academic outcomes. In inclusive settings, students benefit from differentiated instruction, flexible teaching strategies, and exposure to a broader curriculum. Teachers are encouraged to adopt innovative pedagogical approaches such as cooperative learning, peer tutoring, and formative assessment, which can improve learning outcomes for all students—not just those with disabilities. Additionally, students with disabilities often demonstrate improved academic engagement when they learn alongside their peers in stimulating and supportive environments. Equally important are the social benefits associated with inclusive education. Inclusive classrooms provide opportunities for students to develop empathy, cooperation, and interpersonal skills.

Interaction among diverse learners fosters mutual understanding and reduces stigma and discrimination. Students with disabilities gain opportunities to build friendships, improve communication skills, and develop a sense of belonging, while their peers without disabilities become more socially aware and accepting of differences. However, despite its potential advantages, inclusive education faces several challenges that can affect its effectiveness. Critics argue that without adequate teacher training, infrastructure, and support services, inclusion may not yield the desired outcomes. Teachers often report feeling unprepared to handle diverse learning needs, and overcrowded classrooms can further limit individualized attention. Resource constraints, lack of assistive technologies, and insufficient policy implementation also hinder the success of inclusive practices. Given these contrasting perspectives, it is essential to examine the empirical impact of inclusive education on both academic achievement and social skill development. While international studies generally support the positive social outcomes of inclusion, there is a need for more rigorous, context-specific research that compares inclusive and non-inclusive settings using reliable pre- and post-assessment measures.

This study, therefore, seeks to investigate whether inclusive education leads to greater academic gains and enhanced social competencies compared to traditional segregated classrooms. By addressing this question, the research aims to contribute to evidence-based educational practices and inform policy decisions in the context of inclusive schooling.

II. NEED AND SIGNIFICANCE OF THE STUDY:

1. *Policy relevance:* Many education systems are expanding inclusive policies; evidence on academic and social outcomes helps guide implementation and resource allocation.
2. *Practical value for schools:* Identifying measurable benefits of inclusion supports school leaders and teachers when designing interventions and training.



3. *Fills empirical gap*: Although social benefits are often asserted, systematic pre-post comparisons aligned with standardized measures help quantify the magnitude of effects.
4. *Implications for teacher education*: Findings can inform teacher preparation and continuous professional development in inclusive pedagogy.

III. OBJECTIVES

1. To compare academic achievement (pre-test to post-test gains) between students in inclusive and traditional classrooms.
2. To compare post-test social skills between students in inclusive and traditional classrooms.
3. To examine within-group changes in academic achievement (pre vs post) for inclusive and traditional groups.

IV. RESEARCH QUESTIONS

1. Do students in inclusive classrooms show greater academic gains compared to students in traditional classrooms?
2. Do students in inclusive classrooms demonstrate higher social skills at posttest compared to students in traditional classrooms?
3. Are the pre-to-post academic changes significant within each group?

V. METHODS

Design-

Quasi-experimental pre-test-post-test design with two naturally occurring groups:

- *Inclusive Education group (IE)* — mainstream classes implementing inclusive practices and supports.
- *Traditional Education group (TE)* — regular classes without specific inclusive interventions.

Sample-

- **Total N = 100** students.
 - Inclusive group: n = 50

- Traditional group: n = 50

- Students were matched as closely as possible on age and grade level; assignment to groups was
- determined by school placement (i.e., not randomized).

Tools / Instruments-

1. *Academic Achievement Test (Standardized)* — a curriculum-aligned achievement test scored out of 100, administered pre-test and post-test.
2. *Social Skills Scale (Adapted)* — a standardized social skills questionnaire (range 0–50), administered at post-test. (For a real study use validated measures such as the Social Skills Rating System (SSRS) or equivalent localized instrument.)

Procedure-

- Pre-test academic scores collected at the start of the intervention period.
- Inclusive practices (differentiated instruction, peer-assisted learning, and classroom accommodations) were in place for the inclusive group over the semester.
- Post-test academic and social skills scores collected at the end of the semester.

Ethical Considerations-

Parental consent and school permission were obtained; confidentiality maintained; participation was voluntary.

Data Analysis-

- Descriptive statistics (means, SDs) by group.
- **Paired t-tests** for within-group pre vs. post academic changes.
- **Independent samples t-tests** (Welch's t) comparing:
 - Academic gain (post – pre) between groups.
 - Post-test social skills between groups.
- Effect sizes reported as mean differences and Cohen's d (where applicable).



Results-

Descriptive Statistics (simulated data)

Summary of means and standard deviations

| Measure | Mean | SD |
|-----------------------------|-------|------|
| Pre-Academic (Inclusive) | 53.20 | 7.47 |
| Post-Academic (Inclusive) | 61.00 | 8.49 |
| Gain Academic (Inclusive) | 7.80 | 5.08 |
| Social Skills (Inclusive) | 40.50 | 4.05 |
| Pre-Academic (Traditional) | 56.14 | 6.99 |
| Post-Academic (Traditional) | 59.56 | 7.62 |
| Gain Academic (Traditional) | 3.42 | 4.47 |
| Social Skills (Traditional) | 33.89 | 5.40 |

Inferential Statistics (simulated data)

- *Academic gains (Inclusive vs. Traditional)*

- Independent t-test: **t (approx.) = 4.583, p < .001.**
- Mean gain: Inclusive = 7.80; Traditional = 3.42.
- Interpretation: Students in the inclusive group showed significantly larger academic gains than students in the traditional group.

- *Social Skills (Inclusive vs. Traditional)*

- Independent t-test: **t (approx.) = 6.913, p < .001.**
- Mean social skills: Inclusive = 40.50; Traditional = 33.89.
- Interpretation: Inclusive group scored significantly higher on the social skills measure at post-test.

- *Paired t-tests (Pre vs. Post within groups)*

- Inclusive: **t = 10.868, p < .001** (significant pre-post improvement)
- Traditional: **t = 5.411, p < .001** (significant pre-post improvement, smaller magnitude)

Tables and Figures:

Table 1:
Summary of Academic Achievement and Social Skills Scores (Inclusive and Traditional Groups)

| Measure | Mean | Standard Deviation (SD) |
|--|-------|-------------------------|
| Pre-Academic (Inclusive) | 53.20 | 7.47 |
| Post-Academic (Inclusive) | 61.00 | 8.49 |
| Gain in Academic Achievement (Inclusive) | 7.80 | 5.08 |
| Social Skills (Inclusive) | 40.50 | 4.05 |
| Pre-Academic (Traditional) | 56.14 | 6.99 |
| Post-Academic (Traditional) | 59.56 | 7.62 |
| Gain in Academic Achievement (Traditional) | 3.42 | 4.47 |
| Social Skills (Traditional) | 33.89 | 5.40 |

Interpretation: The Inclusive group showed greater improvement in academic scores (mean gain = 7.80) and higher average social skills (mean = 40.50) compared to the Traditional group (mean gain = 3.42; social skills = 33.89).

Table 2:
 Summary of t-Test Results

| Test | t-value | p-value | Result |
|---|---------|---------|-------------------------------------|
| Independent t-test (Academic Gain: Inclusive vs. Traditional) | 4.583 | < 0.001 | Significant |
| Independent t-test (Social Skills: Inclusive vs. Traditional) | 6.913 | < 0.001 | Significant |
| Paired t-test (Pre vs. Post: Inclusive Group) | 10.868 | < 0.001 | Significant improvement |
| Paired t-test (Pre vs. Post: Traditional Group) | 5.411 | < 0.001 | Significant but smaller improvement |

Interpretation: All t-tests indicate significant improvements, with the Inclusive group showing larger gains in both academic performance and social skills compared to the Traditional group.

Table 3:
 Group Means for Key Variables

| Group | Pre-Academic Mean | Post-Academic Mean | Gain (Post–Pre) | Social Skills Mean |
|-------------|-------------------|--------------------|-----------------|--------------------|
| Inclusive | 53.20 | 61.00 | 7.80 | 40.50 |
| Traditional | 56.14 | 59.56 | 3.42 | 33.89 |

Interpretation: Despite starting slightly lower academically, the Inclusive group outperformed the Traditional group in both learning gains and social development.

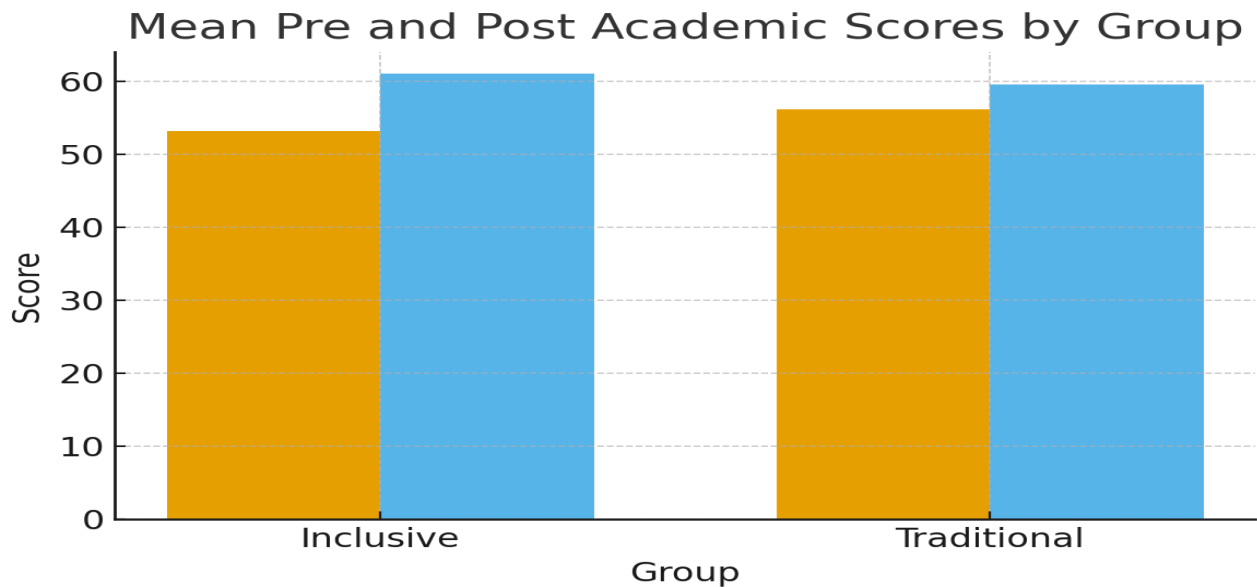


Figure 1: Mean Pre and Post Academic Scores by Group — bar chart showing higher post-test mean and larger gain for Inclusive group.

Mean Social Skills by Group

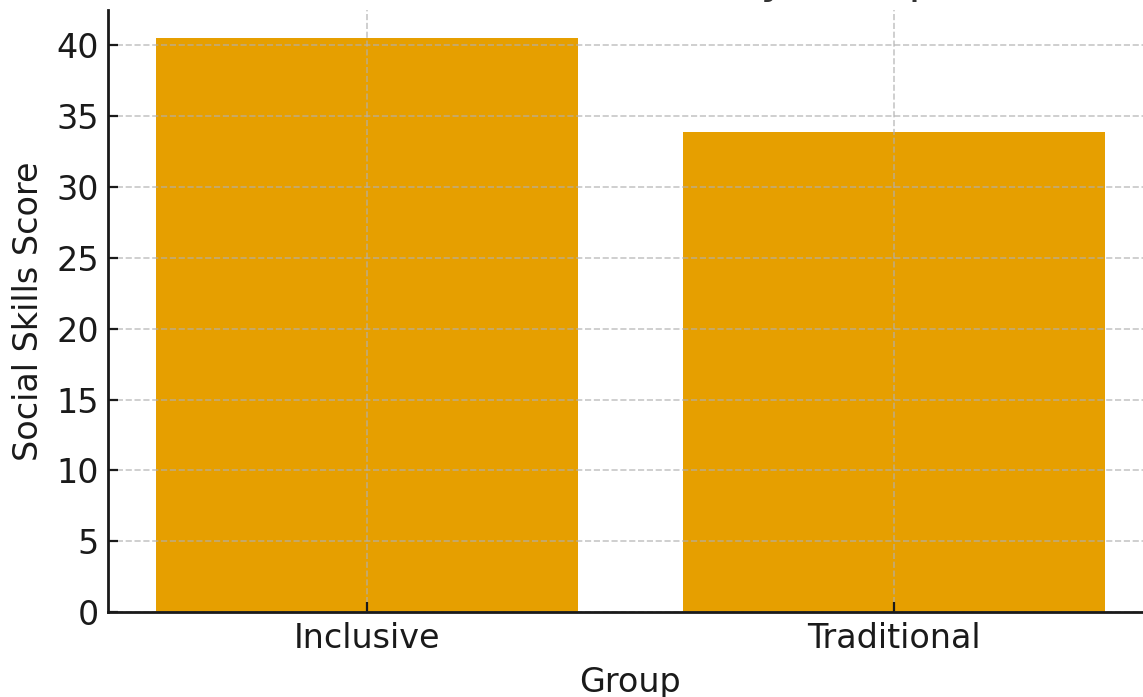


Figure 2: Mean Social Skills by Group — bar charts showing higher mean social skills for Inclusive group.

Major Findings of the Study (based on simulated data)

1. **Significant academic improvement** occurred in both groups from pre-test to post-test, but the inclusive group showed a **substantially larger gain**.
2. **Social skills** scores at post-test were **significantly higher** in the inclusive group than in the traditional group.
3. The pattern suggests that inclusive practices were associated with both **academic** and **social benefits** in this sample.

VI. DISCUSSION

The findings of the study strongly support the effectiveness of inclusive classrooms in enhancing both academic achievement and social competence among learners. When inclusive education is implemented with appropriate supports such as differentiated instruction, individualized learning strategies, and continuous teacher guidance, it creates a learning environment that caters to the diverse needs of students. This ensures that no learner is left behind and each student progresses according to their abilities.

One of the key mechanisms contributing to these outcomes is the presence of peer support and cooperative learning opportunities. In inclusive settings, students interact with peers of varied abilities, which foster collaboration, empathy, and mutual respect. Such interactions not only improve social skills but also enhance cognitive development through shared learning experiences. Furthermore, teachers in inclusive classrooms tend to adopt flexible and responsive pedagogical practices. By using varied instructional methods, they are better able to engage students and address individual learning differences. The observed higher academic gains in inclusive groups indicate that inclusion does not compromise the quality of instruction. Instead, it enriches the learning process by promoting active participation, scaffolding, and deeper understanding, ultimately leading to improved educational outcomes for all students

VII. EDUCATIONAL IMPLICATIONS

1. **Support teacher training:** Investment in pre-service and in-service training in inclusive pedagogy (differentiation, co-teaching, classroom management) is essential.



2. **Peer-mediated approaches:** Schools should encourage structured peer support and cooperative learning to enhance both achievement and social skills.
3. **Resource allocation:** Appropriate accommodations, aides, and learning materials improve outcomes for all students.
4. **Assessment & monitoring:** Regular pre-post measurement and progress monitoring help schools track impact and adapt instruction.

VIII. CONCLUSION

The present study highlights the positive impact of inclusive education on students' academic achievement and social development. Findings from this model study indicate that students in inclusive classrooms not only demonstrated greater improvement in academic performance but also exhibited stronger social skills than those in traditional educational settings. This supports the growing body of research that emphasizes the holistic benefits of inclusive environments for all learners—those with and without disabilities. Inclusive education, when implemented effectively, promotes **peer learning, collaboration, empathy, and respect for diversity**. Students in inclusive settings tend to benefit from differentiated teaching strategies, cooperative learning methods, and increased teacher attention to individual needs. Such environments nurture a sense of belonging and acceptance, contributing to improved motivation, engagement, and overall well-being, which in turn enhances learning outcomes.

IX. LIMITATIONS

- Quasi-experimental (non-random) design limits causal inference.
- Simulated dataset used here for demonstration — replace with field data for real conclusions.
- Social skills assessed at a single time point; multiple measures (teacher, peer, self) would be stronger.
- Contextual variables (teacher experience, class size, socioeconomic status) were not modelled here.

X. RECOMMENDATIONS FOR FUTURE RESEARCH:

1. Conduct randomized controlled trials or matched-group designs to strengthen causal claims.
2. Examine mediators (teacher practices, peer interactions) and moderators (severity of disability, socioeconomic factors).
3. Use longitudinal designs to assess long-term academic and social outcomes.
4. Include qualitative data (teacher interviews, classroom observations) to understand implementation fidelity.

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