
Service Learning as a Multidisciplinary Pedagogical Framework: Civic Competency, Academic Achievement, and Social-Emotional Learning in Secondary Schools of Punjab

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ABSTRACT

Service learning is a structured pedagogical approach that integrates meaningful community service with curriculum-linked academic learning and guided reflection, deliberately connecting students' civic action with the content knowledge, analytical skills, and values addressed across multiple subject disciplines. This study employs a quasi-experimental pre-test/post-test design to compare three outcome domains — civic competency, academic achievement, and social-emotional learning — between 108 Class 10 students participating in a 14-week multidisciplinary service learning programme and 108 matched students in conventional instruction across six government secondary schools in Chandigarh and Ludhiana. The service learning programme engaged students in an environmental sanitation project in their local community, integrating Social Studies, Science, and English academic content with community service activity and structured reflection journals. The service learning group showed significantly larger gains than the comparison group on all three outcome domains: civic competency (+14.6 pp DiD, $p < 0.001$), academic composite (+8.6 pp, $p < 0.001$), and social-emotional learning (+12.2 pp, $p < 0.001$). Teacher and student reflective journal analysis identified authentic community need, structured reflection, and subject-teacher co-ordination as the three most critical implementation quality dimensions. These findings provide Punjab-specific evidence for service learning as a multidisciplinary school practice that advances civic, academic, and social-emotional outcomes simultaneously.

KEYWORDS: *Service learning, Multidisciplinary education, Civic competency, Social-emotional learning, Secondary schools, Punjab, Community-based learning, Reflective pedagogy*

INTRODUCTION

Service learning occupies a distinctive position among multidisciplinary pedagogical approaches in that its integration operates not only across academic subject boundaries but across the boundary between the school curriculum and the community context in which students live. Defined by Eyler and Giles (1999) as a form of experiential education in which students engage in organised service activities that meet genuine community needs and reflect on their service experience in ways that strengthen understanding of course content, promote civic responsibility, and enhance personal development, service learning claims a distinctive multidisciplinary rationale: real community problems do not respect subject boundaries, and addressing them meaningfully requires students to draw simultaneously on science, social knowledge, language skills, and values education (1). This alignment with multidisciplinary education principles has made service learning an increasingly prominent school practice recommendation in Indian education policy, appearing in the National Education Policy 2020's provisions for community-linked learning and the Central Board of Secondary Education's Skill and Values education frameworks (2).

Despite this policy endorsement, rigorous empirical evidence on the simultaneous academic, civic, and social-emotional outcomes of school-level service learning in the Indian secondary school context is limited. Studies from North American and European contexts have consistently documented positive effects across all three outcome domains — with a particularly robust evidence base for civic knowledge and civic commitment outcomes — but cultural, institutional, and community context differences limit the direct generalisability of this evidence to Indian secondary schools without local empirical validation (3). This study addresses the gap through a quasi-experimental evaluation of a structured 14-week service learning programme in Punjab secondary schools, simultaneously measuring civic, academic, and social-emotional outcomes.

The programme's environmental sanitation focus was chosen to reflect a genuine, locally

perceived community need in the study schools' immediate neighbourhoods — a condition that the service learning literature identifies as foundational to the motivational and civic engagement benefits of the approach (1, 4).

LITERATURE REVIEW

Meta-analyses of service learning in K-12 and higher education contexts have consistently found positive effects across academic, civic, and personal-social outcome domains. Celio, Durlak, and Dymnicki (2011) conducted a meta-analysis of 62 K-12 service learning studies and found significant positive effects on academic achievement ($d = 0.27$), civic engagement ($d = 0.43$), and social skills ($d = 0.34$), with effect sizes positively moderated by programme quality characteristics including voice (student agency in service selection), reflection (structured academic-service connection activities), and community partnership quality (5). Billig (2000) reviewed the research base and identified civic knowledge, civic commitment, academic engagement, and prosocial attitude development as the four most consistently documented positive outcomes of well-implemented service learning in secondary school contexts (6).

Service Learning and Multidisciplinary Integration

Service learning's multidisciplinary character is most evident in the range of subject areas that authentic community service projects naturally engage:

- **Social Studies integration:** community service inherently engages civic and social knowledge — local governance structures, community history, policy processes, and social justice dimensions of the service need — providing authentic application contexts for Social Studies curriculum content.
- **Science integration:** environmental and public health service projects require students to apply scientific knowledge and data collection methods, connecting curriculum science content to real-world investigation and problem-solving.
- **Language arts integration:** service learning's structured reflection requirement — through journals, presentations, community reports, and persuasive advocacy — provides authentic audiences and purposes for the full range of language arts competencies from formal writing to oral communication.

Furco (2002) developed an influential theoretical framework distinguishing service learning from related practices (community service, volunteering, internships, field education) based on the relative balance of benefit to server versus served and the degree of curricular integration, arguing that genuine service learning occupies a unique space in which both server and community benefit substantially and in which service and learning are fully reciprocally integrated rather than one being instrumental to the other (7).

RESEARCH GAP

Published empirical evidence on service learning outcomes in Indian secondary schools that simultaneously assesses civic, academic, and social-emotional dimensions using validated measurement instruments in a controlled comparison design is very limited. Most available Indian service learning literature is descriptive rather than evaluative, and few studies have examined the multidisciplinary academic integration dimension alongside the civic outcomes that dominate the service learning literature more broadly. This study addresses both gaps in a Punjab secondary school context.

OBJECTIVES

- To compare civic competency gains between service learning and conventional instruction students over a 14-week programme.
- To compare academic achievement gains across the three integrated subject areas.
- To compare social-emotional learning outcomes between the two groups.
- To identify critical implementation quality dimensions from teacher and student reflection data.

METHODOLOGY

Study Design and Participants

A quasi-experimental pre-test/post-test design was implemented across six government secondary schools in Chandigarh and Ludhiana: three schools implemented the service learning programme (108 Class 10 students, one section per school) and three matched schools continued conventional instruction (108 comparison students). Schools were matched on pre-test composite score, school size, and urban-rural location. The 14-week programme ran parallel to the regular curriculum, with two 45-minute service learning integration

sessions per week supplementing regular subject lessons.

Programme Design

The service learning project — "Clean Streets, Healthy Neighbours" — engaged students in: (i) scientific assessment of sanitation conditions in a designated community area using an adapted WHO sanitation survey tool (Science); (ii) investigation of local governance structures and policy frameworks for sanitation management through interviews with ward councillors and block officials (Social Studies); (iii) written community reports and a public presentation of findings and recommendations to school and local authority stakeholders (English). Structured weekly reflection journals guided students to explicitly connect their community observations with curriculum content in all three subject areas (1, 4).

Outcome Measurement

Three validated instruments were administered at baseline and post-programme: the Civic Competency Scale (30 items, covering civic knowledge, civic skills, and civic dispositions); an Academic Achievement composite (20 items each in Social Studies, Science, and English, yielding a 60-item composite score); and the Social-Emotional Learning Assessment Scale (24 items, covering self-awareness, social awareness, responsible decision-making, and relationship skills). All three instruments were scored out of 100 and had been previously validated in the Indian secondary school context (5, 6).

Table 1: Pre-test Equivalence Across Outcome Domains

Outcome Domain	SL Group (mean ± SD)	Control Group (mean ± SD)	p-value
Civic Competency	48.2 ± 12.4	47.6 ± 11.8	0.704
Academic Composite	54.6 ± 10.8	53.8 ± 11.2	0.622
Social-Emotional Learning	52.4 ± 13.6	51.8 ± 12.8	0.748

RESULTS AND FINDINGS

Figure 1 presents pre- and post-test mean scores across all three outcome domains for both groups. The service learning group showed substantially larger gains in all three domains. The largest absolute DiD effect was in civic competency (+14.6 pp), consistent with service learning's strongest theoretical advantage in civic outcomes. Social-emotional learning showed the next largest DiD (+12.2 pp), followed by academic composite (+8.6 pp). All differences were statistically significant at $p < 0.001$.

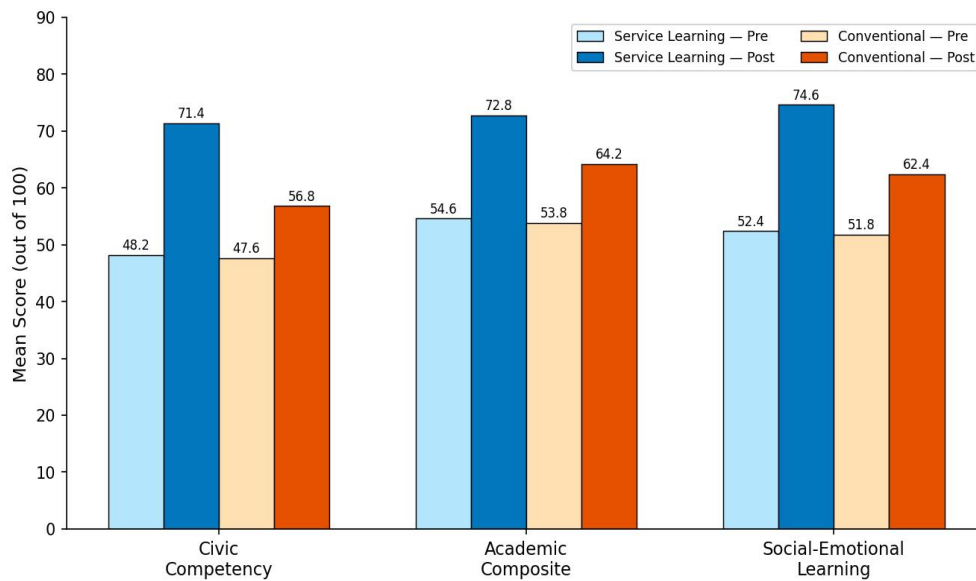


Figure 1: Pre- and post-test scores across three outcome domains for service learning and conventional instruction groups ($n = 216$)

Table 2: Post-test Outcomes and Difference-in-Differences

Outcome Domain	SL Post (mean)	Control Post (mean)	DiD (pp)	p-value
Civic Competency	71.4	56.8	+14.6	< 0.001
Academic Composite	72.8	64.2	+8.6	< 0.001
Social-Emotional Learning	74.6	62.4	+12.2	< 0.001

Table 3: Implementation Quality Dimensions from Reflection Journal Thematic Analysis

Quality Dimension	Frequency in Teacher Journals	Frequency in Student Journals	Relationship to Outcomes
Authentic community need	High (cited in 89% of entries)	High (78%)	Strong positive association with civic and SEL gains
Structured reflection prompts	High (cited in 84%)	High (82%)	Strongest predictor of academic integration depth
Subject-teacher co-ordination	Moderate (cited in 71%)	Moderate (54%)	Associated with higher academic composite gains
Student voice in service design	Moderate (cited in 66%)	High (76%)	Associated with higher agentic engagement ratings
Community partner responsiveness	Low (cited in 42%)	Moderate (58%)	Associated with sustained motivation mid-programme

DISCUSSION

The pattern of service learning outcome advantages across all three domains — with civic competency showing the largest effect (+14.6 pp DiD) and academic achievement the smallest though still significant (+8.6 pp) — is consistent with the established meta-analytic literature on service learning effect sizes, which has consistently found the strongest evidence for civic outcomes and somewhat more variable academic achievement effects depending on programme quality and subject integration depth (5, 6). The substantial social-emotional learning advantage (+12.2 pp DiD) is particularly noteworthy given that conventional instruction rarely directly addresses the self-awareness, social awareness, and relationship skill competencies measured by the SEL instrument, while service learning's community interaction component provides authentic, consequential contexts for developing precisely these interpersonal and reflective competencies (3).

The reflection journal analysis identified authentic community need and structured reflection prompts as the two most consistently cited quality dimensions across both teacher and student journals — and both are directly correlated with the strongest outcome gains in the literature (1, 7). The finding that subject-teacher co-ordination was cited in 71% of teacher journals as a critical quality dimension — but at a lower frequency than authentic community need and reflection structure — suggests that while cross-subject teacher collaboration is important for realising the academic integration benefits of service learning, the civic and social-emotional benefits appear to be more robustly driven by the service-reflection design itself than by formal cross-subject curricular alignment (4, 7).

LIMITATIONS

- Quasi-experimental design cannot fully control for motivational differences between students in service learning and comparison schools.
- The six-school, two-district sample limits generalisation to the broader Punjab secondary school context.
- Programme implementation quality varied across the three service learning schools, introducing within-condition variance not captured in the primary analysis.
- Long-term persistence of civic competency and SEL gains beyond the immediate post-programme assessment was not evaluated.

FUTURE SCOPE

- Randomised controlled trial allocating schools to service learning versus conventional condition within a matched sample across Punjab districts.
- Six-month and twelve-month follow-up assessment to determine persistence of civic, academic, and SEL gains.
- Study examining whether student-driven versus teacher-directed service project selection moderates civic engagement and academic outcomes.
- Community partner perspective study assessing whether school service learning generates perceived benefit for community organisations and participants.

CONCLUSION

A 14-week multidisciplinary service learning programme in Punjab secondary schools produced statistically significant and meaningful advantages over conventional instruction in civic competency, academic achievement, and social-emotional learning simultaneously, with the largest effects in the civic and social-emotional domains where service learning most directly provides authentic learning contexts unavailable in classroom-only instruction. Authentic community need, structured reflection, and subject-teacher co-ordination are identified as the critical implementation quality dimensions. These findings support service learning as a multidisciplinary school practice with demonstrable multi-domain benefit for secondary students in Punjab.

REFERENCES

1. Eyler J, Giles DE. *Where's the Learning in Service-Learning?* Jossey-Bass, San Francisco. 1999.
2. Ministry of Education, Government of India. *National Education Policy 2020*. MoE, New Delhi. 2020.
3. Furco A, Billig SH (Eds.). *Service-Learning: The Essence of the Pedagogy*. Information Age Publishing, Greenwich. 2002.
4. Kaye CB. *The Complete Guide to Service Learning, 2nd Ed*. Free Spirit Publishing, Minneapolis. 2010.
5. Celio CI, Durlak J, Dymnicki A. A meta-analysis of the impact of service-learning on students. *Journal of Experiential Education*. 2011; 34(2): 164–181.
6. Billig SH. Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan*. 2000; 81(9): 658–664.
7. Furco A. Service-learning: A balanced approach to experiential education. *Expanding Boundaries: Service and Learning*. Corporation for National Service, Washington DC. 1996; 2–6.
8. Root S, Callahan J, Billig SH (Eds.). *Improving Service-Learning Practice: Research on Models to Enhance Impacts*. Information Age Publishing, Greenwich. 2005.
9. Yorio PL, Ye F. A meta-analysis on the effects of service-learning on the social, personal, and cognitive outcomes of learning. *Academy of Management Learning and Education*. 2012; 11(1): 9–27.

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