

Service-learning effects on student civic engagement and community - A case study from India

Education, Citizenship and
Social Justice
1–19

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DOI: 10.1177/17461979211041334

journals.sagepub.com/home/esj



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Abstract

The development of student civic engagement has featured in Indian educational policies for decades as a critical goal of schooling. However, the narrowness of the prescribed K-12 curricula, and the intense focus on competitive exams, do not support such an outcome. To overcome this problem, ABC School in India decided to pilot service-learning in its middle-school classroom. The idea was to assess the effects of such a program on students and the community's welfare. Analysis of data from surveys, focus groups, and interviews showed that the service-learning project might have supported increased civic engagement in some students while also enhancing the welfare of the community served. No prior peer-reviewed empirical studies have been published on the nature and effects of service-learning at schools in India.

Keywords

community service, community welfare, service-learning, student civic engagement, student citizenship

Introduction

The Indian government has promoted student civic engagement as an important mission of schooling (Bajaj and Wahl, 2017). This goal was explicitly mentioned in India's National Curriculum Framework of 2005 (National Council of Educational Research and Training, 2005) and National

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Education Policy of 2020 (Ministry of Human Resource Development, 2020). However, the narrowing scope of school curricula and nature of the highly competitive examination system have been impediments to presenting students with meaningful learning experiences that support civic engagement (Bajaj, 2012; Bajaj and Wahl, 2017). ABC School¹—a private K-10 institution following the Indian Certificate of Secondary Education (ICSE) board in Mumbai, India, decided to address this problem. The school's vision is to engage students in self-initiated acts of service that positively affect the welfare of their family, community, and country. Thus, ABC School executed a pilot service-learning (SL) project for one class of 44 middle-school students over a 16-month period to assess the outcomes and feasibility of implementing the program, before institutionalizing it as a part of the school's overall curriculum across grades. This paper describes the implementation of SL at ABC School, along with its outcomes on students and the community.

Literature review

Peer-reviewed literature on SL was explored through the following databases via the EBSCOhost platform – Academic Search Ultimate, Education Full Text (H.W. Wilson), Education Source, and ERIC. Articles over the past two decades—from 2000 till 2020—were searched using the terms “service-learning” or “service learning”. Relevant studies in English were identified across the ages of elementary schooling up to college. Our review found that SL refers to teaching and learning activities where students are engaged in community service integrated with the academic curriculum (Celio et al., 2011). It is a form of experiential education, where students are involved in structured projects to address authentic community needs (Billig, 2020). Students work towards solving complex real-life problems by applying classroom learning and participating in collaborative study, action, and reflection on action (Wilczenski and Coomey, 2007). SL projects aim for mutually beneficial outcomes of student learning and community development (Billig and Waterman, 2003). Thus, SL differs from volunteerism or charity where only the community is a beneficiary of the service (Wilczenski and Coomey, 2007).

The success of SL projects rely on the quality of design and fidelity of implementation (Billig, 2011). Research shows that effective projects manifest some common characteristics (Billig, 2020; Billig and Weah, 2008; Celio et al., 2011), including (1) sufficient intensity in terms of hours and weeks of engagement; (2) relevance of the project in terms of student interest and developmental appropriateness; (3) active voice or student participation in decision making processes; and (4) authenticity of collaboration with community stakeholders. Further, effective projects follow six steps (Billig, 2011, 2020). Projects start with *investigation*, where students collect and analyze data related to a community problem. Next, students engage in *planning*, strategically charting solutions to address the problem through research, critically examining possible solutions, and using planning tools to organize for action. Then, students undertake the *action* and engage in *reflection*. Finally, students *demonstrate* outcomes of the project to relevant stakeholders, and end with a *celebration* for the work done and results achieved (Figure 1).

Several studies have shown the influence of SL on students academically and socio-emotionally (Billig, 2020; Celio et al., 2011; Conway et al., 2009; Gelmon et al., 2018; Novak et al., 2007; Warren, 2012; White, 2001; Yang, 2017). Research also shows a direct positive effect of SL projects on civic engagement outcomes. A systematic review by Eyler et al. (2001) showed that SL projects positively influenced student commitment towards service, and their sense of social responsibility and citizenship. Conway et al.'s (2009) meta study supported these findings, concluding that SL projects positively and significantly influenced student citizenship outcomes. Celio et al.'s (2011) meta-analysis confirmed that SL projects supported an increase in students' positive attitudes and behaviors towards community involvement. A study of 155 elementary school students found that

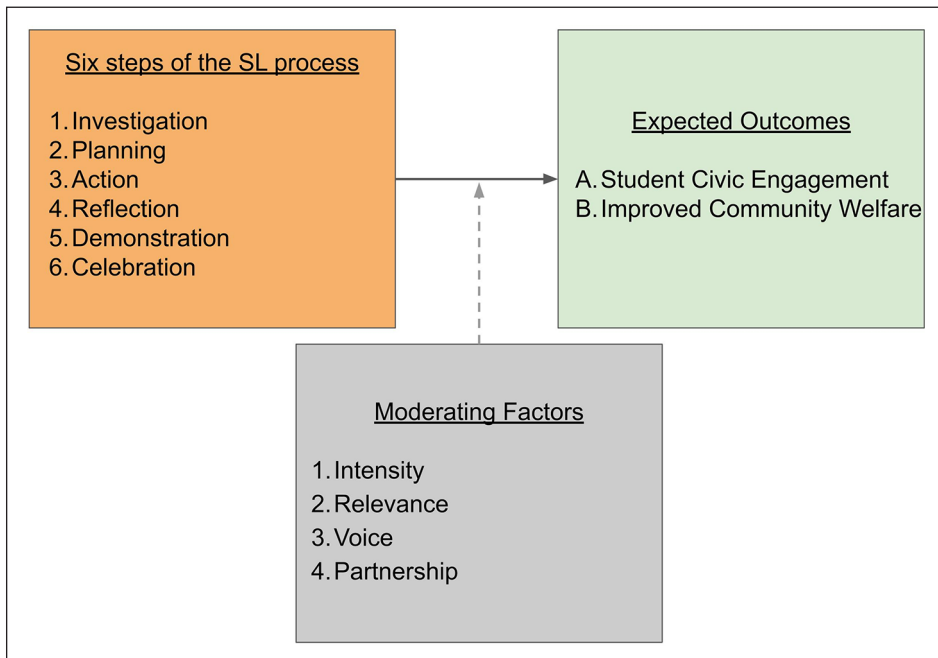


Figure 1. Fidelity of implementing SL projects.

students who participated in SL projects demonstrated a positive increase in civic awareness and beliefs about being able to bring about positive change (Scott and Graham, 2015). Ponder et al.'s (2011) case study of Grade 4 and 5 students confirmed that SL positively influenced students' sense of agency as they learned they could propose changes and elicit support for initiatives from community and local officials.

Research on the effects of SL at the higher education level show similar results. College students that participated in SL projects experienced an increase in their social justice beliefs (Li et al., 2019) and plans for future civic action (Moely et al., 2002) in comparison to students that did not participate. One study showed that participating in SL projects in college was positively associated with student involvement in future volunteer work 13 years after graduation (Bowman et al., 2010). Other studies with undergraduate and graduate students revealed an increase in SL participants' sense of self-efficacy in contributing to community welfare (Sanders et al., 2016) and desire to engage with community service (Koch et al., 2014).

SL projects have shown the potential to create enduring positive changes in communities that were the focus of student action (Gelmon et al., 2018). Multiple studies found that students' SL projects contributed useful services to the communities they worked in (Eyler et al., 2001; Geller et al., 2016; Helm-Stevens et al., 2019). Additionally, student engagement in SL projects make unique contributions to the efforts of partnering community-based organizations that would otherwise not have been possible (Geller et al., 2016). For example, students of a school in the U.S. came together and collaborated with the environmental services department to address the problem of burning and burying garbage. The students were catalysts in encouraging a county to set up a recycling system that processed 340 pounds of garbage every 10 days (United States Environmental Protection Agency, 2011). Similarly, at a school in Tripura, India, students from Grades 3, 6, and 7 addressed the problem of open garbage disposal in their town. Students made compost pits at the

school and neighboring areas, conducted an awareness campaign, and persuaded the municipal corporation of the town to place trash bins throughout the local market area for shopkeepers to dispose of their waste (Brilliant Stars School, n.d.). More such examples can be found around the world (Congreso Internacional Jóvenes Construyendo Mundos, 2010; Design for Change, 2014; National Geographic Education, 2016).

Methodology

This study relied on an embedded mixed methods design where quantitative and qualitative data were collected at the same time and mixed for analysis (Creswell and Plano Clark, 2011). The methodology was driven by the study's research questions:

1. To what extent did the pilot reflect the prescribed six step process?
2. To what extent did the pilot reflect the desired moderating factors?
3. What influence did the pilot have on the welfare of the community and student outcomes related to civic engagement?

The primary purpose of the embedded (QUAL + quant) design was to examine intervention outcomes with a secondary purpose of exploring the implementation of the intervention. The outcomes measured were the perceptions of change in student civic mindedness, and community welfare. The researchers also aimed to understand the extent of the project's implementation fidelity with respect to *adherence* and *dosage* (Dusenbury et al., 2003). Adherence is the extent to which execution follows critical elements of the program's design, while dosage is the total time participants invest in the program. All variables, measures, and instrumentation have been summarized in Table A1 (Annexure A).

Sampling and participants

Purposive sampling was used (Teddlie and Yu, 2007) to explain the pilot program's implementation and effects on the only group of students and teachers in the whole school that were experiencing the SL program. The first 3 months of the pilot included 22 students from one of two sections of Grade 6 at ABC. The pilot was driven by the lead teacher of the program who designed lesson plans and delivered the curriculum. She had 5 years of teaching experience, and a Masters Degree in Education from an internationally ranked American university. The lead teacher was assisted by two teachers from ABC School. Teacher A was a Grade 1 teacher with 9 years of teaching experience and a Bachelor's Degree in Education (B.Ed.) from the University of Mumbai (UoM). Teacher B was a Senior Kindergarten teacher with 10 years of teaching experience and a B.A. in Child Development and Psychology from the UoM.

The academic year ended 3 months after the project's initiation, following the completion of the investigation phase. For the new academic year, the school decided—for logistical reasons—to combine both sections and create one classroom of 44 students in Grade 7. Hence, the entire 44-student classroom became a part of the study. The two homeroom teachers that were part of the newly added section became participants in the study as observers. Teacher C from the newly added section had 15 years of teaching experience and a B.Ed from the UoM. Teacher D had 20 years of teaching experience and a Bachelor's Degree in Child Development from the UoM. None of the four teachers had prior experience with SL.

The lead teacher was interviewed twice and the remaining four teachers participated in a focus group. A total of 36 students answered the survey and participated in 4 student focus groups. A total

of 19 of their parents answered the parent survey and four randomly selected parents participated in a focus group. Interviews were conducted with residents at 15 randomly chosen homes in the neighborhood. Finally, an officer from the local municipal corporation was interviewed as they supported students during the project.

Measures and instrumentation

SL project process. The extent to which the SL project followed the six step process prescribed by prior studies (Billig, 2011) was considered an indicator of adherence (Dusenbury et al., 2003). Data for this measure were collected through the teacher focus group, and the lead teacher's interviews.

Intensity. The number of hours and weeks over which the SL project was implemented, were considered indicators of *dosage* (Dusenbury et al., 2003). Data on dosage were collected from the school's Google Calendar, student time table, teacher and student focus groups, and the lead teacher's interviews.

Relevance. The extent to which the SL project was perceived as relevant for the students was considered as an indicator of *adherence* (Dusenbury et al., 2003). Data on this measure were collected through student focus groups, the teacher focus group, and the lead teacher's interviews.

Voice. The prominence of student voice through phases of the SL project was considered an indicator of adherence (Dusenbury et al., 2003). Data on this measure were collected through student focus groups, the teacher focus group, and the lead teacher's interviews.

Partnerships. The extent and manner of collaboration between the students and stakeholders from the community was considered an indicator of adherence (Dusenbury et al., 2003). Data on this measure were collected from residents' interviews and the municipal officer's interview.

Civic engagement. Civic engagement was defined through the construct of participatory citizenship as explained by Westheimer and Kahne (2004) and Banks (2017). Participatory citizens actively engage in addressing civic matters by driving organized community-based missions (Westheimer and Kahne, 2004) and undertake more than basic personal responsibilities like voting—they actively support the actualization of laws (Banks, 2017). Civic engagement was measured through student response to the Child Civic Indicators survey—an instrument developed using 359 middle school students' responses from six public schools in the U.S., showing high alpha reliabilities from 0.71 to 0.89 (White and Mistry, 2016). An adaptation of this survey (Annexure B) was administered to 36 students in ABC school and yielded a Cronbach's alpha of 0.635, a moderate reliability finding (Taber, 2018).

The original survey has a total of 19 items, 13 of which are rated on a Likert scale of 1–5 from *strongly disagree* to *strongly agree*. The remaining six items are rated on a scale of 1–5 from *not at all important* to *very important*. In the adapted survey, one item was eliminated from the original survey—"it is important for me to help those who are less fortunate," because it seemed redundant due to its similarity to the item, "I try to help when I see people in need." Two other items were changed to suit ABC's project topic. The item, "I try to get my family to recycle at home" was adapted to "I try to get my family to segregate," and "I try to get my friends to recycle bottles and cans" was changed to "I try to get my friends to segregate waste into wet and dry." All 18 statements were rated on a 5-point Likert scale from *strongly disagree* to *strongly agree* for ease of

administration to students. Questions from this survey were used for the parent survey, and focus groups with students, teachers, and parents.

Improved community welfare. Student focus group data were collected to measure perception of how impactful they felt the project was. Community members were interviewed to assess if the problem identified was important and the extent to which it was effectively resolved through the project. The teacher focus group, and the municipal officer's interview provided perception data regarding the impact of the students' work on community welfare. Finally, photographic evidence of the project site before and after the project was collected.

Data analysis

Emergent coding (Rossman and Rallis, 2011) was used to analyze the focus group and interview data to examine the outcomes of the intervention. First, the researchers explored the corpus of data to delineate responses that addressed the implementation and outcomes. The qualitative data were triangulated (Shenton, 2004) with data from the parent and student surveys. Descriptive analysis was used to examine the outcomes of the intervention using percentages related to student citizenship indicators. Finally, the data on program implementation and outcomes were merged around broad themes.

Findings

Research question 1

Findings for the first research question—to what extent did the pilot reflect the prescribed six step process—revealed that the project was implemented with fidelity (Figure 2). Data were collected from the lead teacher's interviews and the teacher focus group.

Investigation. The project started with a walk across Neighborhood A, a low-income neighborhood outside the school. Students took photographs and made notes in reflection diaries to identify specific needs of the community. The two main problems that emerged were open garbage accumulation and unsafe infrastructure. The students engaged in a feasibility exercise for both problems with guiding questions from the teacher. The class decided to focus on open garbage accumulation as it seemed more actionable in terms of scope and scale. A student expressed that, "the area was very dirty and the garbage bins were overflowing, there was a river of garbage".

Next, students decided to better understand the problem, its drivers and impact by collecting data from neighborhood residents, shopkeepers, community leaders, and doctors. Students were guided to make tools to conduct interviews, focus groups, and observations. After 2 weeks, a data analysis session was conducted which concluded in students articulating the project's problem as "garbage accumulation caused due to the lack of knowledge of effective waste disposal resulting in health problems within the community." The investigation phase of the pilot closely aligned with that of successful SL projects, where students undertake data collection through observations and surveys with community stakeholders to choose and better understand the problem under study (Billig, 2011, 2020).

Planning. Next, students looked for potential solutions to the problem. They critically analyzed projects adopted by municipalities, towns and countries across the world faced with similar issues. Students used teacher-provided newspaper articles, documentaries, and videos to create

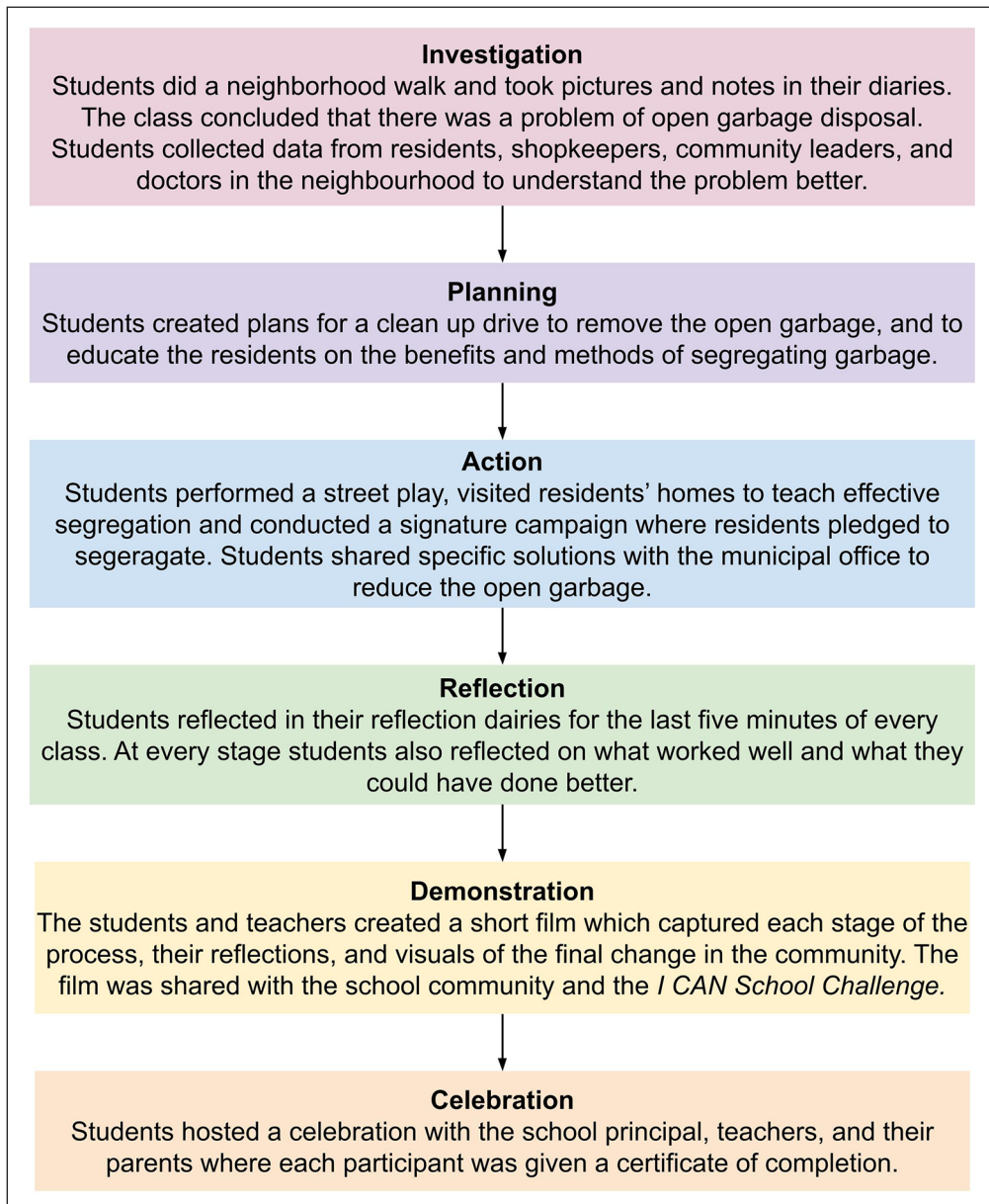


Figure 2. SL project steps undertaken.

a list of possible solutions. They also met with waste management experts from a local NGO for ideas. This phase concluded with students presenting a list of potential solutions to the school principal for final approval given the limited availability of time, financial, and human resources. One teacher mentioned that students were supported through the process of identifying a feasible action where “we explained how practical it is and then asked them. . . we had a debate kind of thing.”

Ultimately, the students decided the most appropriate way to solve the problem was to collaborate with stakeholders directly affected by it. Students were reorganized into four groups to work with (i) the municipal officer (ii) residents (iii) garbage collectors and (iv) the community at large. The students sought the stakeholders' support with help from their teachers. One group visited their local municipal ward office to explain the scale of the problem in the community and their suggested solutions. The municipal officer shared that "the kids gave really good ideas. . . they had done their research before coming." However, not all of the proposed solutions were feasible. Finally students settled on two lines of action—(1) a clean up drive to remove the open garbage, and (2) educating residents about garbage segregation. The planning phase resembled planning in effective SL projects, where students engage in group research to critically examine potential solutions and use planning tools to organize themselves for action (Billig, 2011, 2020).

Action. Two student groups performed street plays within the community to create awareness about segregation. The students carried posters, sang songs and gave speeches. Simultaneously, the third group connected with garbage collectors in the community to discuss effective segregation. All three groups received feedback through these interactions. The feedback helped in the following step where students went to residents' homes to teach them how to segregate waste. Students conducted a signature campaign to track the houses they visited and had residents pledge to segregate their garbage. Finally, students returned to the municipal ward office to share their progress and remaining ideas. They presented specific solutions including the type of trash bins needed, locations for those bins, and equipment that would help the garbage collectors. The action phase emerged as one of the most exciting parts of the project, and one teacher shared that, "they (students) like to do field work. . . they keep asking when will we go, when will we go".

Reflection. The last 5 minutes of every SL class were used for reflection. Students used their *reflection journals* to note down key learnings or significant moments experienced during classes. Initially, teachers provided students with reflection prompts to help them structure their thinking. One teacher explained, "we used to guide them and probe them; the ideas used to come from them." As the program progressed the students gained independence which allowed for increasing degrees of free writing. At every stage students reflected on the outputs they created by discussing what worked well and what they could have done better. The reflection phase of the project manifested both criteria shown by research (Billig, 2011, 2020) to be critical to the success of SL projects—(i) it should take place throughout the project, and (ii) students may reflect using any modality appropriate—oral, written or other.

Demonstration. The project concluded with students and teachers creating a short film about their journey. This video captured each stage of the process, teachers and students' reflections, and visuals of the final change in the community. This video was shared with all members of the school community, and submitted to the *I CAN School Challenge*—an international competition that showcases stories of change brought about by students around the world. Through the design and circulation of the video, the outcomes of the project were effectively presented to relevant stakeholders thereby making student learning and community benefit visible, as seen in successful SL projects (Billig, 2011, 2020). The lead teacher of the program shared that via the film students "could share their learnings with other schools and other people who might be interested in doing work like this in the future." She added that as a result the "knowledge or the success was not just restricted to the 40–45 students within the program" and "other people can learn from this."

Celebration. At the end of their SL project, students hosted a celebration with the school principal, teachers, and their parents where the project was showcased as a film. The lead teacher shared that

“having that celebration was important for them to share it (the project) with people closest to them or people they really worked with.” The principal acknowledged students’ efforts and each participant was given a certificate of completion. “This helped the parents acknowledge the work that their kids were doing and how their kids participated in creating a change,” said the lead teacher. Students celebrated their individual success and the successes of bringing about change in the community, thereby closing the final phase of the project as typical in SL programs (Billig, 2011).

Research question 2

Findings for the second research question—to what extent did the pilot reflect the desired moderating factors—revealed that the duration and time invested surpassed research-prescribed dosage, the topic was relevant to students, some degree of student voice was present, students were meaningfully engaged in reflection throughout, and authentic partnerships were established with key community stakeholders. A triangulation of data from the school’s Google calendar, student timetable, focus groups, and interviews, explained these findings.

High level of intensity. Research shows that the period of time over which projects are conducted affects their outcomes (Billig and Weah, 2008). Studies show that outcomes improve as the amount of time spent on the project increases, up to 40 hours and 30 weeks, after which an increase in time results in lower outcomes (Conway et al., 2009). The pilot project started in December 2017 and concluded in March 2019. During the first four months of the program, 23 SL classes of 60 minutes each—twice a week—were completed. Later, the time table was changed to one 40 minute class plus one 80 minute class per week. Approximately 40 classes of 40 minutes and 35 classes of 80 minutes took place over the academic year 2018–19. As such from 2017 to 2019, a total of 96 hours were devoted to the SL project over approximately 47 weeks.

In terms of participant perception, 47% of students in the focus groups said the time per week dedicated to SL was enough. Only 17% of students felt like the time per class was too little and wished for more time to spend in the field. Contrastingly, 36% of students said it was too much because the 80 minute class tested their ability to focus, especially since it was the last class of the day and they were sometimes exhausted. A student expressed that “an excess of something is too much; if we have one class on one day and then the second class on another day and the third class separately that would be better.” The teacher focus group echoed this sentiment, all four teachers felt it better to have three separate 40 minute classes instead of one 80 minute class and one 40 minute class. The lead teacher believed that the initial arrangement of two classes of 60 minutes each was better than what it changed to. The 40 minute class was too short because the time lost to transition left too little time for discussion and study. She added that the initial arrangement had the SL project class in the morning, which was better than when it changed to late afternoon. Mornings were a better time to visit the community as it was easier to find residents in their homes.

With regard to duration, 44% of the students in the focus groups felt the time frame was appropriate and less than 3% felt it was too short. One of the students said, “it was a vast area so we needed time to cover the area”. However, 53% of the students found the project duration long. Some students commented that it would be ideal if the project was completed within one academic year. All four teachers echoed this sentiment and felt the ideal time frame was one academic year to maintain student enthusiasm and allow them to see the change they are working towards more quickly. A teacher shared that, “when the project is completed children get boosted, they want to see the change.” The lead teacher agreed and explained that the class might have stretched on too long because of the complexity of the topic.

Relevant, interesting, and appropriate. Studies show that effective projects engage students in service activities that are perceived as relevant and interesting, while also being developmentally appropriate (Billig and Weah, 2008). ABC school's focus group data showed that 83% of the students found the project relevant. One student explained that this was a real life problem impacting their community. Only 17% of the students felt the topic was irrelevant. One student explained that their family was already segregating garbage so it was not relevant. Another said that they did not pass by that community everyday so it was not relevant to them. With regard to interest, 37% of students reported that it was not interesting. One student expressed that, "garbage is repulsive" and so it would have been nicer to work on infrastructural needs or something else. While the teachers thought it was a relevant study they felt that students were sometimes disengaged and bored. However, a majority of the students thought it was an interesting project.

Further, 86% of the students in focus groups found the project to be appropriately challenging. All four teachers agreed. Contrastingly, the lead teacher felt the project was too complex because at times the students were working on areas that were out of their control. For example, the residents shared that even if they segregated their garbage, it was collected together, in one truck. This was protocol and not even in the municipal officer's control.

Sufficient student voice. Successful projects engage students in decision making related to planning, action, and reflection throughout the project (Billig and Weah, 2008). Focus group data from ABC School revealed that 36% of the students felt they were fully involved in decision making while 53% felt they were at least somewhat involved in decision making. In one focus group, students agreed that they chose the topic and area to serve. All four teachers believed that students were always given choices and their opinions were solicited. They added that except for a few students, the rest participated in decision making processes. The lead teacher explained that while classes were driven by teacher instruction, decisions were made by students. She provided an example, "I exposed them to 10 (ideas) and they picked four; there was choice within a given framework; and fully free choice is not developmentally appropriate." Only 11% of the students felt they were not at all involved. One student explained that they felt the topic and area were actually chosen by the teachers. Another student said that the classes were fully planned by the teachers.

Authentic partnerships. Effective projects engage students in collaborations with community members and local organizations where stakeholders share a common vision, participate in action, and are viewed as valued contributors (Billig and Weah, 2008). When asked if the SL project was relevant to the wellbeing of their household and community, 87% of residents interviewed from Neighborhood A agreed. One resident explained that the children from ABC School tried solving a practical problem. In his interview, the municipal officer revealed that the students' project was very relevant to the neighborhood's welfare. He added that the students had many good ideas, and he was inspired to pay more attention to Neighborhood A because they approached him as partners. He asserted that the municipality office receives passing statements from many residents, but the students were willing to put in effort to create change. The officer expressed that he was very impressed by the students' research and presentation to him, and appreciated that they took his feedback and adjusted their plans based on it. He concluded by saying, "if every school worked with their local municipality, this idea of "Swachh Bharat" (A Clean India) will actually come true."

Research question 3

Findings for the third research question—what influence did the pilot have on the welfare of the community and student outcomes related to civic engagement—revealed that a majority of the

students and parents felt the SL project increased student consciousness regarding segregation of garbage, responsibility towards the environment, and their belief in their ability to bring about positive change. While the students successfully cleaned up the garbage disposed openly in the Neighborhood A, there were mixed results over whether they managed to inspire residents to start segregating their garbage.

Civic engagement. Student civic engagement was measured using the Child Civic Indicators (White and Mistry, 2016) which were related to three factors—responsibility to the community and people, and civic values. Student survey data showed over 80% of the students either agreed or strongly agreed with 14 of the 18 questions asking about positive changes in their behavior because of participation in the SL project. Further, survey data showed that more than 70% of the students agreed or strongly agreed that it was their responsibility to keep the community clean, help people in the community, and believed that they can make a difference in their community. Some questions from the survey were asked to parents, teachers, and students in focus groups, allowing the emergence of broad themes showing differing extents of change in student beliefs and actions.

Increased consciousness regarding segregation of garbage. Approximately 83% of the students agreed or strongly agreed that the project influenced their attempts to make their families segregate garbage at home. One student expressed, “it’s really important for everyone to segregate their own waste; before I wouldn’t agree to this.” One student said that his family agreed to buy two trash cans for garbage separation at home. Parent surveys asking if students made any suggestions at home regarding the segregation of garbage found that 89% agreed. One parent explained that her daughter started talking about dry and wet waste and insisted that trash segregation should happen in their home. Another parent shared that her household started segregating garbage after the project. The teacher focus group revealed that segregation of garbage was a practice already being followed at ABC, and so the project could not be credited with bringing about such a change in the classroom. While students increased their activism at home, encouraging changes amongst peers was not as prevalent. Student survey data revealed that only 46% agreed or strongly agreed to trying to get their friends to segregate garbage. Student focus group data showed that none of the students tried to encourage their friends to segregate garbage.

Increased responsibility towards the environment. Student surveys showed that 72% agreed or strongly agreed that since the project they felt responsible to keep the environment clean. One student explained in the survey comments section, “I do want to try to help my community to improve their way of living and make it a better place.” Another explained, “I now try to throw waste in the dustbin instead of throwing it on the road; earlier I used to think littering is OK, but now I see to it that I keep the roads in my society my school and other public places clean.” Another expressed, “I have started feeling that I have a responsibility towards nature and we should care (for) it”. In the focus groups, 47% of students agreed that the project made them feel like they have a responsibility to help keep the community clean. Students who disagreed explained that they believed they were responsible for the environment even before the project. Similarly, during focus groups 58% of students said they were more conscious of doing their part to conserve the environment because of the project. One student explained her realization that everyone has a part to play in helping the environment because it cannot be done alone. In another group students said they pick up trash if they see it around, and they reduced their waste creation. When asked if their child displayed increased responsibility with regard to how they pollute the environment, 93% of the parents agreed in the survey. Teachers shared that since the project a few students are very conscious about polluting the environment.

Increased belief in ability to bring about positive change. When students were surveyed about if they believed they could bring about a change in the community because of their participation in SL, 78% agreed. One student explained in the survey comments section, “if we try hard enough we can accomplish anything; our age does not define who we are; we can make life better and help others; we can change this world.” Focus group data showed that 89% of students agreed they learned they can “make a change” as a result of the SL project. 92% of parents surveyed agreed that their child’s confidence in their ability to make a positive change in their community increased. Teachers in their focus group explained that a few children internalized the experience and realized that it is difficult to bring about change but if they work hard they can achieve success.

Increased belief in the importance of community partnerships for change. Student survey data revealed that 83% felt by working with others in the community they can make things better. Focus group data echoed this perception too, with 92% of students agreeing with the statement, “by working with others in the community, I can help make things better”. One student explained, “when you’re alone people won’t listen to you, when there are several people then there are more chances of convincing others.” Another student shared how interacting with the community enabled them to gain an accurate understanding of the problem instead of making assumptions. One parent explained that the students had a positive experience partnering with the municipal corporation to achieve their project goals. She added that such partnerships were important because “we normally criticize the government authorities, but here the students experienced that the government can help too.”

Improved community welfare. A triangulation of data from focus groups, interviews, surveys, and site photographs showed that students were able to achieve their goal of cleaning up the garbage disposed openly in the community, and also managed to educate the residents about garbage segregation in their homes, but were not successful in changing the segregation habits of the residents.

Clean up drive and closed garbage disposal unit. The municipal officer and his department organized a clean up drive and built a permanent garbage disposal building on site in order to allow for covered and safe disposal of segregated garbage. Figure 3 shows the area where garbage was being disposed of in the open before the SL project started. Figure 4 shows the same area after the clean up drive, and after two small garbage disposal units were built by the municipal corporation.

In an interview, the municipal officer was asked about the impact of the project. He stated that this problem would not have been solved without students’ initiative. “There is a big difference in that place now,” he said, “they came to me around February with ideas and since the clean up, I closely monitor the place; the children asked for this.”

Focus group data showed that 61% of students believed the project was successful. One student explained that they achieved the goal they set out for by creating a proper place for waste to be disposed of. Another student expressed that, “the first day when we entered the society it was very dirty and the garbage bins were overflowing, there was a river of garbage, and now when I went to the society it was very clean and there was more land and it was more spacious.” Another student said, “I’m very proud of being a part of the project because we managed to actually clean up the place.” Students who disagreed in the focus groups felt the goal was achieved only partially as the community was starting to get dirty again. Another student asserted that the residents of that area had gone back to their previous ways of throwing garbage in the open.

A total of 87% of the residents of the community interviewed implied their neighborhood was cleaner since the project. One resident expressed that after the students visited their homes fewer



Figure 3. Before the clean up drive.

people threw garbage out in the open. A few residents said that since the students' engagement, the municipal corporation was being more diligent with its garbage collection efforts. However, some residents also mentioned that while there were improvements, the area was not fully clean and there was room for improvement.

Promoting segregation of garbage. Students visited homes of people immediately around the open garbage dumping area to teach them about segregation. At the end of their engagement, students asked the residents to sign a pledge stating they understood how to segregate garbage and promising to do so. A total of 156 signatures were obtained by students. However, it was found that the municipal corporate garbage collectors and their vehicles did not have provisions for segregation of garbage. One student explained that even though many residents started segregating garbage, collectors combined the garbage before taking it away and so this defeated the purpose. Residents echoed this sentiment. One resident asserted, "there is no segregation at source; BMC (municipal corporation) does not collect garbage as dry and wet separately; people are saying what is the point of all this segregation."

Discussion

This study found fidelity in implementation with relation to adherence of the six steps of effective SL projects. Further, parent and student perception regarding adherence related indicators of implementation fidelity such as relevance of the project to students, student voice during the project, and engaging in authentic partnerships with the community during the project, were positive. With



Figure 4. After the clean up drive and construction of closed garbage disposal unit.

regard to dosage, the recommendations of past studies were surpassed (Conway et al., 2009) and many students felt that the dosage was too intense. Teachers, students, and the lead teacher all noted that 80 minute classes were too long to maintain student engagement. The lead teacher suggested 60 minutes as the ideal length. Moreover, teachers, students, and the lead teacher felt the project went on for too long and this might have affected student motivation negatively. According to the lead teacher, projects should be completed within one academic year and not spilled over to the next year. These dosage related considerations might deserve attention when designing projects, to ensure optimal student engagement and motivation.

One of the project's community welfare related goals was to educate the residents in the neighborhood about garbage segregation. Students succeeded in sharing information related to the topic with 156 residents. However, the assumption that this would lead to dry and wet garbage being separated in homes did not hold. Some residents expressed they found it redundant to segregate garbage during disposal because the municipal garbage collectors would combine the waste while taking it away. Another goal of the project was to clean up the open garbage dump in the neighborhood. Students succeeded in this endeavor, as can be seen from Figures 3 and 4. Affected stakeholders appreciated this and expressed that ABC School should continue engaging students in such projects. One resident explained, "when adults do this kind of work, people think they have a hidden political agenda but when children do it people will listen more because their request will be more genuine." Similarly, 100% of the parents surveyed said SL projects should continue. One parent said, "nowadays civic change can only be done this way; through projects like this children got a chance to learn the reality of life; young people are at the forefront of change today." All four teachers and the lead teacher agreed with this sentiment. The municipal officer said the students

played a key role in bringing about positive change in their community, and that such partnerships would help India achieve its vision of being a clean country.

Limitations

Student learning outcome data were only collected after the project's completion—no pre data were available for comparison. Also, no comparison group participated in the study to help isolate and ascertain the effects of the project on students and the community. As such, this study makes the assumption that the students and community would not have experienced the outcomes found if the SL project was not implemented. Yet, it is not possible to ascertain the change supported by the SL pilot free from confounding factors (Stuart, 2007). Since the study does not allow for conclusions to be drawn regarding causality, it is exposed to threats of validity (Shadish et al., 2002). However, perception data from residents, students, teachers, and the municipal officer showed that a large majority believed the project was a success, impacted the community, and that it should be continued.

Conclusions

The pilot at ABC School reflected key design and implementation characteristics of effective SL projects prescribed by prior research, and found positive effects on student civic engagement and community welfare. This pilot illustrates how schools can engage children in meaningful civic engagement for the welfare of communities, foster partnerships, and engage multiple stakeholders, for the benefit of all. In doing so, it provides an example of how the Indian education policy prescription of providing students with meaningful learning experiences that build civic sense can be realized in schools. It is also an example of how a critical void in civic curricula the world over can be filled—through social action experiences driven by SL projects (Banks, 2016).

Recommendations for practice

Schools will need to be intentional about carving out space in the already-packed daily time-table in order to accommodate SL projects. Classes prescribed by the Indian boards for *socially useful and productive work* (SUPW), *social empowerment through work and action* (SEWA), and *moral science*, could be allocated to SL. Also, some time per week could be redistributed from sciences and social studies to SL, since the content of these disciplines align appropriately. In addition to time, a critical input is the presence of teachers that are enthusiastic and capable of designing and helping students navigate the complexities that might often be experienced with SL projects. Finally, the support of the school principal is critical—from authorizing adjustments to the time table, to communicating the program's goals and importance to parents, and even networking with and engaging the community-at-large with students' SL projects efforts.

Recommendations for future research

This is the first peer-reviewed empirical paper that we are aware of on SL in the context of schooling in India. It is hoped that this study inspires longitudinal experiments across diverse geographical contexts, school sizes and examination boards, student demographics, and grade levels, in India and countries with similar profiles. This will help build an empirical foundation for curricular interventions like SL projects that may help schools meet a common and lofty goal asserted by their reform policy—empowering students to become socially conscious citizens that actively contribute to the welfare of their neighborhood, country, and the world.

Acknowledgements

We would like to thank the visionary and inspiring teachers at Hasanat High School that volunteered to pioneer this challenging project—Ms. Zenab Pachorawala and Ms. Fatema Lakdawala. Additionally, we would also like to thank the homeroom teachers of the pilot class, Ms. Farida Mun and Ms. Batul Ayyajiwalwa for their constant support in making this program possible. Also, this study would not be possible without the whole-hearted support and commitment of the Principal of Hasanat High School—Mr. Behlah Badri. Finally, we would like to thank Ms. Sanyukta Bafna for designing the curriculum and driving this program.


Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Note

1. ABC school is a pseudonym

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Annexure A

Table A1. Data collection matrix.

Variables	Measures	Instrumentation
SL project process	The extent to which the SL project followed the six step process prescribed by prior studies (Billig, 2011)	a. Teacher focus group b. Interviews with the lead teacher
Intensity	The number of hours and weeks over which the SL project was implemented	a. School's Google Calendar b. Student time table c. Teacher focus group d. Student focus groups e. Interviews with the lead teacher
Relevance	The extent to which the SL project was perceived as relevant for the students	a. Student focus groups b. Teacher focus group c. Interviews with the lead teacher
Voice	The prominence of student voice through phases of the SL project	a. Student focus groups b. Teacher focus group c. Interviews with the lead teacher
Partnerships	The extent and manner of collaboration between the students and stakeholders from the community	a. Interviews with residents b. Interview with the municipal officer
Civic engagement	The extent to which students were perceived as participatory citizens with a sense of responsibility towards the community, people, and civic values.	Questions from the child civic indicators (White and Mistry, 2016) that were asked in: a. Student focus groups b. Teacher focus group c. Parent focus group d. Student survey e. Parent survey
Improved community welfare	Perception of the importance and impact of the project on the community's welfare and visible physical changes at the project site.	a. Interviews with residents b. Teacher focus group c. Student focus groups d. Interview with the municipal officer e. Photographic evidence of the project site before and after the project

Annexure B

Adaptation of the Child Civic Indicators survey used to measure students' civic engagement.

The response scale included the following options: strongly disagree, disagree, neither agree nor disagree, agree and strongly agree.

Q. Because of my participation in the SLP project

1. I try to get my family to segregate at home
2. I have a responsibility to help keep the community clean
3. I do my part to help the environment
4. I try to get my friends to segregate waste into wet and dry
5. By working with others in the community, I can help make things better
6. I spend time on projects with other people to help the community
7. I think it is important to change things that are unfair in society
8. I have done things to help people in my community
9. I believe I can make a difference in my community
10. I try to help when I see people in need
11. I try to be kind to other people
12. I apologize when I hurt someone's feelings
13. I want to help when I see someone having a problem

Q. It is important for me to. . .

1. Help people in my community
2. Help stop pollution
3. Help protect animals
4. Preserve the earth for future generations
5. Work to stop prejudice

Q. Please add any comments about any change that you think may have taken place due to SLP.