

# End-line evaluation to assess the impact of Focused Development Program

## FINAL REPORT

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## Abbreviations

ASER	Annual Status of Education Report
CC	Community Coordinator
CSR	Corporate Social Responsibility
DID	Difference-in-difference
FDP	Focus Development Program
FGD	Focus Group Discussion
IDI	In-Depth Interview
MBIF	Magic Bus India Foundation
MP	Madhya Pradesh
OBC	Other Backward Class
RP	Resource Person
RTE	Right to Education
SC	Scheduled Caste
SDG	Sustainable Development Goal
SMC	School Management Committee
ST	Scheduled Tribe
STEM	Science, technology, engineering, and mathematics

## Executive Summary

Under the aegis of its "Parivartan" education programs, which focus on enhancing the value in the human resource ecosystem of the country through initiatives like teacher training, scholarships, career counselling, and infrastructure support, education is a key focus area for the HDFC Bank's social initiatives. By making these efforts, HDFC Bank hopes to raise the standard of education throughout the country. In four states—Chhattisgarh, Madhya Pradesh, Rajasthan, and Maharashtra—the "Focused Development Program (FDP)" that was undertaken between March 2016 and March 2021 as part of the HDFC CSR project through MBIF was focused on "promotion of education." The program, which covered 25 districts, 156 villages, 195 schools, and 19,786 students, aimed to increase student retention in school, improve learning outcomes by raising the standard of instruction there, and lower dropout rates by changing how these villages felt about education.

A quasi-experimental study design (QED) with difference-in-difference (DID) approach using mixed methods to assess the impact of the project indicators. Evaluation of the efficacy, effectiveness of the project interventions, and sustainability of the project's outcomes, was accomplished by using the OECD-DAC criteria. Structured interview schedule was administered to a total of 1089 students (640 in intervention arm and 449 in control arm) across the study states of Maharashtra, Madhya Pradesh (MP) and Rajasthan. Additionally, qualitative interactions were conducted with various other stakeholders which included parents and teachers.

### Findings

#### School regularity and motivation to attend school

A 5.8 percentage points increase in regular (5 days or more or week) attendance to school was reported during the endline survey (in comparison to the baseline). An important trend observed in terms of motivation to attend school is the greater increase in the intervention group (as compared to the control group), in the proportion of students wanting to get a better education (13.2% versus 11.9%). This is indicative of the positive influence of the program's activities for increased awareness about the importance of education.

#### Impact of COVID

Only 75% of all students claimed to be able to attend these classes frequently, despite the fact that more than 90% of respondents in all three states claimed that virtual classes were regularly held by the schools throughout the pandemic. Of them, Madhya Pradesh had the highest percentage of frequent attendees (85% intervention and 78% control), followed by Rajasthan (74% and 73% respectively), while students from Maharashtra were the least likely to attend regularly (59% intervention against 81% control). The major barriers to attending online classes during COVID were technology related, whether it was access to mobile phones, cost of internet recharge or network issues.

#### Perception of school and participation in class

Students in the intervention group demonstrated a much more positive attitude about school (96%) following the FDP's implementation than students in the control group (67%). A higher engagement in class was also reported (across various parameters).

### Gender perception and attitudes

The overall 'good' score of the intervention areas, at 56%, was appreciably higher than 31% in the control areas, attesting to the impact of the FDP in inculcating positive gender attitudes in the intervention areas.

### Life Skills

The Likert responses show almost double the percentage of 'good' responses (80%) in intervention areas as compared to the control areas (41%), testifying to the success of the FDP in engendering strong problem-solving skills in the program beneficiaries. In terms of self-management and decision-making as well, a 23 percentage points difference between the 'good' scores of intervention and control students highlights the impact of the Magic Bus program. In terms of perceived self-efficacy, the difference was 9 percentage points. The program's impact on the resilience of students is uncertain (94.8% students in intervention arm reported high resilience tendency as opposed to 95.5% students in control arm). These changes have been attributed to the program by difference-in-difference estimator results.

### Learning level assessment

After the program's implementation, around 93% of students reported that they understood their classes better, and 89% also reported higher exam scores. Another 92% of the respondents said that the program had inspired them to work hard in school and enroll in higher education to eventually pursue a job. Outcomes of the ASER reading tools indicate that the FDP's activities and capacity building endeavours had a positive impact on the reading abilities and numeracy skills of the students.

### Conclusion

It is important to read these takeaways against a backdrop of COVID-induced disruption. This not only curtailed the program's activities midway through the program, but also dampened the quantitative responses of the beneficiary students. In fact, in view of these factors, the impact of the program has been quite commendable.

There was a concerted effort from the Magic Bus mentors to raise community awareness about the importance of completing the children's education through social interaction. One of the most positive impacts of the FDP is a higher proportion of respondents in the intervention groups attending school because they like their teachers. In all three states, there was a significant increase in the percentage of girl students attending school during their menstruation period. There is a definite upswing in students' participation in class, their willingness to give their best efforts and their enjoyment of group activities, which was one of the program's core focus areas for improving pedagogies and student-teacher engagement. Students understood their lessons better after the program implementation and recorded higher marks in their exams, as well as being motivated by the program to study well and go in for higher studies in order to ultimately pursue a career.

Due to the efforts of the Magic Bus program personnel, there was a positive shift in gender segregation during play, as well as a definite normative shift in thinking about sports from a gender perspective. An appreciable positive shift in attitudes about traditional gender roles was to be observed as a result of awareness raising by the Magic Bus program. This shows that the seeds of social change have been sowed which, if nurtured, will reap fruits of gender equity in the course of time.

There was a positive impact in the program area on the students' ability to solve problems as a result of the activities and mentoring in school, rendering the students better equipped to handle unexpected difficulties and find ways out of problems. The beneficiaries of the program exhibited an increase in community connect and an increased sense of participation in community events, along with better appreciation of the importance of life skills and community values. Other pivotal life-skills such as decision-making and perceived self-efficacy was also significantly higher among the students who were a part of this program.

#### *Recommendations*

- In order to ensure sustainability of the program, it is essential not to have an individual-centric pillar rather build sustainable institutions. Thus, in addition to the concept of CCs, strengthening of village-level institutions like Village Child Protection Committees and School Management Committees (SMCs) can be done to ensure continued high enrolment of students and no incidence of dropping out of school.
- A longer, more sustained engagement with higher frequency with the community and schools.
- Greater liaison with government can be explored to train teachers in delivering life skills sessions



# Chapter 1: Introduction to the study

## 1.1. Educational status of children in India

India's demography is characterised by a young population, with approximately 20% (243 million) of its people in the adolescent (10-19 years) age group.<sup>1</sup> However, on the education front, even though almost all children in India are enrolled in schools at the primary level, only 33% transition to Grade 11 and 12<sup>2</sup>, of which just 10% go for higher education, and a mere 5% receive employability training<sup>3</sup> of any kind. Contextual factors continue to negatively impact educational attainment, learning trajectories and careers for children in India. Looking at these statistics through the gender lens, as of 2021, India recorded a higher nationwide share of men with at least 10 years of schooling than that of women. Around half of the male population age between 15 and 49 years stayed in school for at least 10 years, compared to only 41 percent of their female counterparts. The gender education gap also remained evident in rural India, with only one out of three women in this region receiving at least 10 years of schooling<sup>4</sup>. Drop-outs and gender-skewed low educational attainment also further regressive gender and cultural norms like early marriage and early child-bearing<sup>5</sup>.

This overall result is reduced employment opportunities and lower incomes, with a large populace being stuck in intergenerational poverty traps. Reports show that workforce participation is falling in rural areas, and increasing only marginally in urban areas. Further, according to statistics by gender, only 13.4% of Indian working women have a regular salaried job (2013) compared to 21.2% (2011-2012) of working men (aged 15–59)<sup>6</sup>. These challenges have resulted in a low average workforce participation of approximately 20%.

This is somewhat ironic, given that the median age of the Indian population is 29 years, with a 65% working age population between 15 and 59 years. There is, thus, irrefutable evidence of a demographic bulge which needs to be efficiently trained and channelized into a dividend, rather than a disaster. However, as per estimates of Economic Survey 2018-19, this enormous demographic potential is expected to last only till 2040, which gives us a narrow time window to harness this opportunity to the nation's advantage.

The principal imperatives for this task are education, health and skill development. Even though policy makers have set in motion numerous initiatives in this regard, such as Right to Education Act, Poshan Abhiyan, and Skill India Mission etc., the outcomes in most of the cases are not commensurate with the outlay for the schemes.

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<sup>1</sup> <http://unicef.in/PressReleases/87/Adolescence-An-Age-of-Opportunity>

<sup>2</sup> [https://www.prsindia.org/sites/default/files/parliament\\_or\\_policy\\_pdfs/Overview%20of%20Education%20Sector%20in%20India\\_0.pdf](https://www.prsindia.org/sites/default/files/parliament_or_policy_pdfs/Overview%20of%20Education%20Sector%20in%20India_0.pdf)

<sup>3</sup> [https://www.ey.com/Publication/vwLUAssets/ey-future-of-jobs-and-its-implication/\\$File/ey-future-of-jobsand-its-implication.pdf](https://www.ey.com/Publication/vwLUAssets/ey-future-of-jobs-and-its-implication/$File/ey-future-of-jobsand-its-implication.pdf)

<sup>4</sup> <https://www.statista.com/statistics/1303339/india-gender-education-gap-by-area/#:~:text=As%20of%202021%2C%20India%20recorded,percent%20of%20their%20female%20counterparts.>

<sup>5</sup> *Child Marriage and Early Child-bearing in India: Risk Factors and Policy Implications.* <https://www.younglives.org.uk/sites/www.younglives.org.uk/files/YL-PolicyPaper-10-Sep16.pdf>

<sup>6</sup> <https://medium.com/@shinningstars0902/are-indian-women-giving-up-a-lot-4182fb866f6b>

The RTE Act, 2009, did result in an increase in enrolment of pupils in schools, but has failed signally to bring about the much needed improvement in the quality of education. This dismal fact is highlighted in the ASER Survey of 2019, where only 16% of standard 1 children could comprehend a text. Moreover, there is a high dropout rate of 17% from senior secondary education<sup>7</sup>.

There are several factors contributing to drop-outs, ranging from affordability, financial constraints of parents and opportunity costs of child labour and work, to traditional, cultural or religious beliefs, gender stereotypes, and gender-differentiated child-rearing practices. For example, if a choice has to be made between sending a boy or a girl to school, the boy will usually be given precedence.

Poor quality teaching, inadequate school environment and infrastructure, a shortage of qualified and well trained teachers have also been found as major causes of student dropouts in India. The 'No fail policy till Class 8' has also been a big reason for drop-outs. Since all students are passed till 8th grade, regardless of learning outcomes, many children graduate from primary school without even learning to read.

Traditional gender norms push girls into helping with household chores and sibling care, leading to irregular attendance which eventually results in dropouts. Lack of safety in schools, absence of separate functional toilets and low aspirations related to girls' education also lead to them dropping out. Distance is another big contributing factor in dropping out of schools, especially for girls<sup>8</sup>.

The number of schools also decreases sharply beyond upper primary. Parents must send their children to nearby towns and cover the costs of transportation and boarding, which most times becomes impossible. Further, students have to stay with relatives or contacts, and parents are reluctant to leave their daughters without what they consider proper oversight.

All these factors result in very low education attainment of children, especially girls, spiralling a web of impoverishment. This is especially pronounced for certain disadvantaged states in the country.

## 1.2. Life-skills education

Given the acute poverty stricken conditions in our country with 35% of our children under the age of 5 as stunted and 17% wasted, the children are exposed to adverse experiences creating a dent in their physical and mental wellbeing.<sup>9</sup> Additionally, the current turbulent socio-economic climate, with a burgeoning population and perceived scarcity of resources, has resulted in extreme competition and mobility in the workplace, and thereby, in disaggregated communities and fragmented social life. With the consequently mushrooming mental and emotional issues, especially amongst the younger demographic, never has the need for sound life skills been more acute. Therefore, the focus on

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<sup>7</sup> <https://udiseplus.gov.in/>

<sup>8</sup> *The high dropout rate of girls in India.* <https://www.livemint.com/Opinion/iXWvKng7uU4L8vo5XbDn9I/The-high-dropout-rate-of-girlsin-India.html>

<sup>9</sup> Suratri, Made & Putro, Gurendro & Rachmat, Basuki & Nurhayati, & Ristrini, & Yulianto, Aris & Suryatma, Anton & Samsudin, Mohamad & Raharni, Raharni. (2023). Risk Factors for Stunting among Children under Five Years in the Province of East Nusa Tenggara (NTT), Indonesia. *International Journal of Environmental Research and Public Health*. 20. 1640. 10.3390/ijerph20021640

building life skills is now an imperative in enabling the youth to handle different situations capably. There is, thus, a strongly felt need for an empathy-based transformative pedagogy, experiential learning, and mentoring which can help young people enhance their quality of life and realize their full potential.

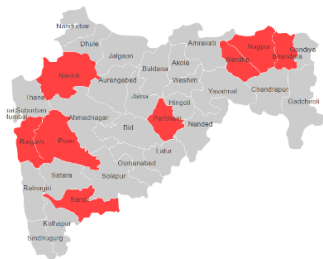
Adolescents and the youth of the nation frequently face immense struggle in accessing education and employment opportunities, which inhibits their engagement in society and stunts their ability to live a full life. Equipping them with life skills can yield transformative results. In pursuit of this objective, Magic Bus India Foundation (MBIF) focuses on education and skills training of children and youth in India, to address this problem at scale. MBIF works with adolescents and youth from underserved backgrounds who are most vulnerable to poverty and its attendant degradation. MBIF is delivering this through Activity Based Curriculum programmes working towards building life skills with a focus towards younger adolescents aged 11-16 at the start of the programme. Apart from adolescents, MBIF engages with the immediate community in the process of change. This includes parents, teachers, community leaders and other key stakeholders who are involved at every step of the journey. This holistic approach to empowerment of India's crucial demographic is an encouraging step in reaping our demographic dividend.

### 1.3. Study Landscape

#### Beneficiaries

The primary beneficiaries of the program were 8998 students from 91 schools in 89 villages of 18 districts across three states, i.e., Maharashtra, Madhya Pradesh (MP) and Rajasthan. The secondary beneficiaries were the teachers, head masters, SMC members and parents of the targeted areas.

#### Maharashtra:



Maharashtra, situated in the western and central region of India, is the second most populous state in the country with a population of 11.2 crore, as per Census 2011<sup>10</sup>. In terms of size it is the third largest state in the country with a land area of 3,08,000 sq km. According to the latest literacy census the literacy rate of Maharashtra is on the uptrend and currently stands at 82.34%. Within this statistic, male literacy rate stands at 88.38% while female literacy rate is somewhat lower, at 75.87%. This is a definite improvement over the Census 2011

figures, for the state's literacy rate, which then stood at 76.88%, with male and female literacy rates at 85.97% and 67.3% respectively. As can be seen, the improvement in literacy rates comes majorly on account of increase in female literacy in the state.

Taken by religious group, Hindus constitute the majority at 79.83% of the population. Marathi is the primary language of the state.

According to the Sustainable Development Goals (SDG) Index 2020, Maharashtra holds the 9th rank amongst the country's 29 states. The SDG index lists Maharashtra as a performer under SDG 4 (Quality Education) and SDG 5 (Gender Equality). The Human Development Index (HDI) rank of Maharashtra is 15<sup>th</sup> among the states of India.

<sup>10</sup> <https://www.census2011.co.in/census/state/maharashtra.html>

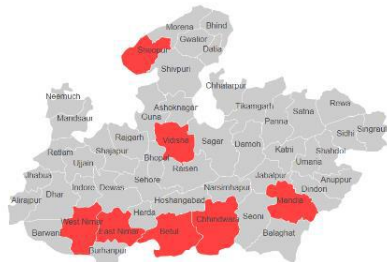
### Wardha

Wardha in Maharashtra currently has a population of 1,46,000. The total number of literates in Wardha city is 90,371 of which 46,848 are males while 43,523 are females. The average literacy rate of Wardha city is 93.77 per cent of which male and female literacy was 96.78 and 90.73 per cent. The sex ratio of Wardha city is 982 per 1000 males. The child sex ratio of girls is 902 per 1000 boys.

### Bhandara

According to the 2011 census, Bhandara in Maharashtra had a total population of 1,200,334 wherein the male and female population is 605,520 and 594,814 respectively. The average literacy rate of Bhandara in 2011 was 83.76. The male and female literacy were 90.35 and 77.08 respectively. The sex ratio in Bhandara is 982 females per 1000 males. The child sex ratio is 950 girls per 1000 boys.

### Madhya Pradesh



The state of Madhya Pradesh is located in the north-central part of the country. As per Census 2011, the population of the state was 72,626,809, of which male and female populations were 37,612,306 and 35,014,503 respectively.<sup>11</sup> More than 75% of the population resides in villages whose main occupation is agriculture. It is the second largest state in India after Rajasthan, with a land area of 3,08,000 sq km. The official language of the

state is Hindi and commonly spoken dialects in the state are Mali Bundeli, Bagheli and Nimri.<sup>12</sup> MP is the second richest state in terms of its mineral resources. Primarily, it has an agricultural and pastoral economy.<sup>13</sup>

According to the SDG index the state is under the category of performer for SDG 4 (Quality Education) and an aspirant for SDG 5 (Gender Equality). The SDG rank of MP is 17.<sup>14</sup>

### Betul (MP)

Betul in MP recorded a population of 103,330 as per the provisional figures of Census 2011, out of which male and female population were 52,823 and 50,507 respectively. Total literates in Betul city are 82,268 of which 43,658 are males while 38,610 are females. Average literacy rate of Betul city is 89.28%, of which male and female literacy was 92.94% and 85.47%. The sex ratio of Betul city is 956 per 1000 males. However, child sex ratio of girls is 912 per 1000 boys.

### Mandla (MP)

Mandla district in the state of MP had a population of 1,054,905 according to the 2011 Census, of which male and female populations were 525,272 and 529,633 respectively. Average literacy rate of Mandla in 2011 was 66.87%. There was a gender literacy rate gap, male and female literacy rate were 77.52% and 56.39%. The Sex Ratio in Mandla stood at 1008 females per 1000 males.<sup>15</sup>

### Vidisha: (MP)

<sup>11</sup> <https://www.census2011.co.in/census/state/madhya+pradesh.html>

<sup>12</sup> <https://mp.gov.in/state-profile>

<sup>13</sup> <https://mp.gov.in/state-profile>

<sup>14</sup> <https://sdgindiaindex.niti.gov.in/#/state-compare?goal=AllGoal&area=IND023&timePeriod=2020>

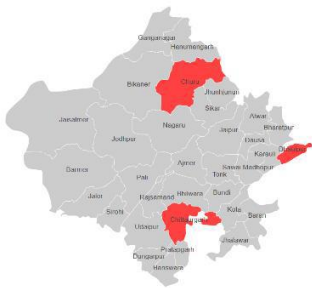
<sup>15</sup> <https://www.census2011.co.in/census/district/321-mandla.html>

Vidisha in Madhya had a population of 155,951 as per the Census 2011 provisional data, out of which males and females were 81,488 and 74,463 respectively. Average literacy rate of the city is 85.16% out of which male and female literacy rate is 90.12% and 79.74%. The sex ratio of the city is 914 per 1000 males. Child sex ratio of girls is 901 per 1000 boys.<sup>16</sup>

#### *Chhindwara: (MP)*

Chhindwara in the state of MP had a population of 138,291 in 2011, as per provisional Census figures, out of which male and female populations were 70,465 and 67,826 respectively. Average literacy rate of Chhindwara is 89.42%, out of which male and female literacy was 93.03% and 85.68%. The sex ratio of Chhindwara city is 963 per 1000 males. Child sex ratio of girls is 944 per 1000 boys.<sup>17</sup>

#### *Rajasthan*



The state of Rajasthan is located in the northern part of India. According to the latest census data, the population of the state is 68,548,437 of which male and female are 35,550,997 and 32,997,440 respectively. The sex ratio of Rajasthan is 928 as per the latest census data. Overall Literacy rate in Rajasthan has seen an upward trend and is 66.11% as per latest population census. Of that, male literacy stands at 79.19%, while female literacy is at 52.12%. In 2001, literacy rate in Rajasthan stood at 60.41% of which male and female were 75.70% and 43.85%

literate, respectively.<sup>18</sup> Rajasthan is a mineral rich state and has a diverse economy having agriculture, mining and tourism as the main growth-oriented. The primary language of the state is Hindi, along with various dialects like Marwari, Mewari, Dhundhari, Mewati and Harauti.

The Human Development index rank of the state is 29. According to the SDG index the state is under the category of performer for SDG 4 (Quality Education) and an aspirant for SDG 5 (Gender Equality). SDG index rank of the state is 22.<sup>19</sup>

#### *Churu (Rajasthan)*

Churu in Rajasthan currently has a population of 163,000. The total number of literates in the city are 76,564 of which 45,186 are males while 31,378 are females. Average literacy rate of Churu city is 74.23% of which male and female literacy stands at 85.36% and 62.50% respectively. The sex ratio of Churu city is 945 per 1000 males. Child sex ratio of girls is 926 per 1000 boys.

#### *Dholpur (Rajasthan)*

Dholpur district of Rajasthan had an average literacy rate of 69.08% as per the 2011 Census, compared to 69.08% in Census 2001. Sex Ratio in Dholpur stood at 846 per 1000 male compared to 2001 census figure of 827. There is a huge gender gap in literacy rate in the district. According to the 2011 census, the literacy rate of males and females was 81.22% and 54.67%. The sex ratio of the district is similarly skewed, at 846 females per 1000 males.<sup>20</sup>

<sup>16</sup> <https://www.census2011.co.in/census/city/301-vidisha.html>

<sup>17</sup> <https://www.census2011.co.in/census/city/308-ehhindwara.html>

<sup>18</sup> <https://www.census2011.co.in/census/state/rajasthan.html>

<sup>19</sup> <https://sdgindiaindex.niti.gov.in/#/state-compare?goal=AllGoal&area=IND008&timePeriod=2020>

<sup>20</sup> <https://www.census2011.co.in/census/district/431-dhaulpur.html>

## 1.4.About the program

Education is a key focus area for the HDFC Bank’s social initiatives, under its umbrella of ‘Parivartan’ education programs that focus on building value in the human resource ecosystem of the nation through activities such as teacher training, scholarships, career guidance and infrastructure support. Through these efforts, HDFC Bank aims to enhance the quality of learning across the nation.

The “Focused Development Program (FDP)” implemented between March 2016 and March 2021 under the HDFC CSR initiative through MBIF targeted ‘promotion of education’ in 4 states – Chhattisgarh, MP, Rajasthan and Maharashtra. The program spanned 25 districts, 156 villages, 195 schools and 19,786 students, and aimed to improve child retention in schools, enhance learning outcomes by improving the overall quality of education in schools, and reduce dropouts by improving perceptions towards education in these villages. The project’s aim was to bring about a positive difference in the educational attainment of students studying in rural areas through improved pedagogies and instructional tools, enhancing learning outcomes, improving community perceptions towards education in the villages and building resilience and life-skills of students.

The specific objectives of the project were enumerated as:

- Ensuring retention and progression of adolescents studying in government schools.
- Improving their learning abilities and levels in numeracy, reading and science.
- Improving perceived self-efficacy and resilience of adolescents through life skills education.
- Building their work readiness skills (financial literacy, life skills and career counselling).
- Improvement of school governance system through capacity building of SMCs.
- Creating an enabling environment through structured community connect activities

### **Program strategy:**

The structuring of the program involved a comprehensive strategy comprised of both **scholastic and co-scholastic components**. Its ground level implementation was carried out by on-field teams comprising of Resource Persons (RPs) and Community Coordinators (CCs). The **co-scholastic components** of the program encompassed life skills relating to social and emotional skills of self-management, decision-making, and resilience, and influencing attitudes on positive gender perceptions, among others, primarily transmitted through the medium of sports and fun activities. Such sessions were conducted once a week in each school, to create a healthy mind-set and work readiness, especially with regard to career awareness and financial literacy.

### **Key components of the program:**

#### **Life skills Education:**

Life skills Education module aimed at developing self-efficacy, resilience and aspiration among the adolescents studying in grade 6th to 8th. Age appropriate inputs were provided using experiential approaches including the use of an activity-based curriculum, mentoring and a sport for development methodology resulting in getting the adolescent interested in the process of learning leading to better class participation, attendance and retention.

**Learning enhancement:**

Learning enhancement program was to raise the student learning levels in reading and numeracy. The focus of the program was on increasing the effectiveness of teaching through well-designed and need-aligned learning and mentoring on pedagogy skills, subject enrichment techniques, classroom management, assessment tools and methods, and more.

**Science Education:**

In this module experiential learning was introduced through an innovative science Lab and student engagement was built through “Do it yourself” student activity kits that encourage students to explore, discover and inquire by spending time in the science lab.

**Community Connect:**

Community Connect Tool Kit was a comprehensive guide for the Field Facilitators for mobilizing community stakeholders to contribute proactively for improving access and quality of education.

## Chapter 2: Overview of the study design

### 2.1. Research Design and Methodology

A quasi-experimental study design (QED) with difference-in-difference (DID) study approach using mixed methods to assess the impact of the project indicators. Evaluation of the efficacy, effectiveness of the project interventions, and sustainability of the project's outcomes, was accomplished by using the OECD-DAC criteria.



**Figure 1: OECD-DAC criterion**

The study adopted a mixed-method approach for the purpose of data collection and analysis. The mixed design required qualitative interviews to be carried out to triangulate the quantitative findings. Besides the primary research component, secondary research was also performed, which was helpful in triangulations at the time of data analysis. The quantitative tools provided values to key impact and outcome indicators, whereas the qualitative tools helped to answer the "whys" and the "hows". The introduction of quantitative and qualitative tools provided a robust design that looked at the holistic evaluation assessment in the intervention area.

#### Control Area Selection

In order to understand the effect of the intervention, utilisation of a comparison cluster was also introduced in the study. The introduction of the comparison cluster aided in establishing the counterfactual regarding the focus of the intervention. The results from the comparison group enabled location of the impact of the intervention and reflections about what would have happened in the absence of the intervention in this regard.

Convenient sampling method was adopted for the purpose of selecting control schools. Due to lack of necessary permissions from the government, comparison schools could not be selected from different districts or blocks. However, with the help from the implementing agency, it was ensured that none of the control schools chosen had any intervention (HDFC's or otherwise) being implemented there in order to ensure accurate difference between the two study arms could be measured.

### 2.2. Sampling Design and Sample Size

A quantitative sample size of approximately 1014 students was estimated using the Cochran's sample size formula<sup>21</sup>. However, since the program hasn't been operational since March 2020, it was challenging to track down the students who were a part of the programme. The distribution of the quantitative sample size (both targeted and achieved) is as under:

$n = \frac{t^2 \times p \times (1 - p)}{m^2} \times D$	n	Required sample size
	t	Confidence interval at 95%
	p	Assumed estimate of key outcome indicator
	m	Margin of error - 5%
	D	Design effect - 1.5

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**Table 1: Quantitative sample size**

State	Districts targeted	Districts covered	No. of students (treatment) Targeted	No. of students (treatment) Achieved	No. of students (control) Targeted	No. of students (control) Achieved
Madhya Pradesh	4	4	344	279	172	194
Maharashtra	4	2	350	138	175	124
Rajasthan	2	2	320	223	160	131
Total	8	8	1014	640	507	449

For the intervention area, children currently studying from 8th to 10th grade were selected proportionately for the impact assessment. Only children who were exposed to the intervention formed part of the intervention arm. In addition, children with 2.5 years or more in the program were also selected proportionately. Even though the sample size achieved is less than targeted (reasons for which have been elucidated in a section that follows), the sample size achieved both at state-level and overall level was still more than the baseline. Hence, effective comparison between the two time periods was still possible. All the 1089 students were administered a structured interview tool.

The table below outline the qualitative sample covered.

**Table 2: Qualitative sample size**

State	Sample size covered
In-depth interviews (Teachers/Head master, & SMC members etc.)	12
FGDs (parents)	10

## 2.3. Data Analysis

### Quantitative Data Analysis

Data cleaning, descriptive statistics, and finding statistically significant associations, if any, were the three main components of the data analysis.

**Descriptive and Disaggregated analysis** – For the questions administered to the students, a descriptive statistical analysis was conducted (using SPSS) with state and/or gender segregation wherever applicable.

**Tests of significance** – Following the basic descriptive analysis, the evaluation team conducted disaggregated and comparative analysis on key indicators of interest. Since the majority of the variables were nominal, the chi-square test<sup>22</sup> was used to see whether there was a statistically significant difference between the baseline and endline.

**Tests to ascertain causality** – At the last stage of analysis, difference-in-difference method was adopted to check for association and attribution.

### Qualitative Data Analysis Plan

The qualitative data was transcribed and translated into English. After transcription, a detailed coding framework was developed which served as a reference while analysing the qualitative data. This

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<sup>22</sup> The chi-square independence test ( $\chi^2$ ) is a procedure for testing if two categorical variables are related in some population.

process helped in producing the following outputs: developing quotations, coding as per areas of enquiry, developing document families, creating of network views, etc.

## 2.4. Ethical Considerations

We followed the following plan for compliance to the ethical standards:

- ***Respect for Dignity and Diversity***

The evaluation team was mindful of differences in the culture, local customs, religious beliefs and practices, personal interaction, gender roles, disability, age and ethnicity while conducting the study. The research instruments that were used in the study were ensured to be appropriate to the cultural settings of the study areas. The evaluation team was considerate of the time and privacy of the study participants while administrating the study. All the enumerators were trained to keep these factors in mind during the data collection process. While recruiting the enumerators, it was ensured that the study team was gender-balanced. This ensured that the female respondents were comfortable in answering to sensitive questions.

- ***Fair Representation***

The evaluation team ensured equal representation of respondents from all socio-economic classes without any discrimination. The evaluation team ensured these at all stages of the research viz. sampling and administration of the study. To ensure a fair representation, the study team employed a random method of selection of samples.

- ***Compliance with Codes for Vulnerable Groups***

The evaluation team adhered to and complied with the existing legal codes (local/international) governing. A consent form was read out and agreed upon by the study participant before administrating the study. The study was administered only to those participants who agreed to participate in the study. Written and/or verbal consent was taken from all the participants of the study.

- ***Confidentiality***

The evaluators ensured the confidentiality of any information that has been collected from the respondents. The scope and limits of confidentiality were conveyed to the respondents prior to the administration of the study. The evaluators ensured that the source of sensitive information/critical feedback is not traced back.

## 2.5. Key challenges and limitations of the study

- The program's activities were disrupted by the onset of the COVID pandemic with its attendant restrictions and frequent lockdowns. The activities of the program were, thus, effectively curtailed from March 2020. Hence, tracking children who were a part of the program back then was a huge challenge.
  - Numerous children had moved out of their then residence i.e., they, along with their families, had migrated to some other village/ city.
  - A sizeable proportion of students had now graduated to class 11<sup>th</sup>. In most of the scenarios, higher secondary schools were situated far away from the village (sometimes in different district or block altogether). Hence, these children couldn't be contacted.
  - A few girls were reported to have been married off since the closure of the program.

- Teachers in some of the intervention schools had also transferred. It was difficult to seek cooperation from new teachers.
- Since male members of the households across all the study villages were engaged in their respective livelihood activities at the time of the survey, FGDs with fathers could not be conducted despite constant efforts from the implementation's team.
- There is a recall bias in the responses since the programme completed operations in the year 2020.
- Reading and numeracy assessment of the students could not be compared with the baseline figures due to lack of access to the data and methodology used to evaluate the same. Hence, only a comparison between the intervention and the control groups has been done.
- Similarly, number of Likert scale statements administered to students at the time of the baseline to measure various life skills such as decision-making ability, problem-solving abilities, self-efficacy, resilience, etc. is different than the endline. Thus, a comparison between the two cannot be drawn.
- Calculation of Difference-in-Difference for the overall programme was not feasible as that would have required would require creating an index of all the output variables and attaching relevant weights to them. In order to attach appropriate weights, we would have to go back to the program's Theory of Change. Also, since there are all distinct indicators, making an overall composite score of these indicators, even with accurate weights, may end up distorting the information, and would be very hard to correctly interpret even if the results are positive.

## Chapter 3: Key Findings of the Impact Evaluation

In this chapter, on behalf of HDFC Bank the Focus Development Program (FDP) was evaluated. The program was aimed at improving scholastic as well as non-scholastic outcomes for secondary school children, to foster better learning, employable skills and resilience through critical life skills. The intervention was administered by Magic Bus India Foundation (MBIF) through its DISHA program in selected districts of Maharashtra, MP and Rajasthan, from 2016 to 2021.

Improved pedagogies and assessment techniques for better scholastic outcomes were introduced in selected schools, in tandem with imparting critical life skills to foster resilience amongst the children from marginalized communities. The quantitative tool deployed aimed to capture the impact of the program by collecting data from the beneficiaries of the program on a variety of aspects and comparing the baseline responses with the impact study results, as well as results from the intervention group and a control group to assess how much of the change between baseline and impact study findings can be attributed to the program intervention.

The data findings have been interpreted in the light of qualitative inputs gathered by way of focus group discussions (FGDs) with groups of students and parents, as well as in-depth interviews (IDIs) with teachers, principals and members of the School Management Committees (SMCs).

**However, it needs to be kept in mind that the program's activities were disrupted by the onset of the COVID pandemic with its attendant restrictions and frequent lockdowns. The activities of the program were, thus, effectively curtailed from March 2020, and even though attempts were made to resume them towards the tail end of the program period, after lifting of the pandemic restrictions, the momentum could not really be re-established.**

This has caused certain anomalies in the findings, the most prominent of which is the difference in qualitative perceptions and quantitative findings about the magnitude of the program's impact. For instance, while parents of the beneficiary students and community members might perceive huge benefits in areas such as attitude shifts, resilience indicators, etc., the quantitative findings might indicate a lower order of impact. Apart from the blurring of perceptions, especially in case of young respondents, when the assessment is conducted more than a year after the conclusion of the program, another reason for dampened responses from the children could be the negative emotional and psychological impact of the pandemic. Thus, it is widely seen in the Likert scale linked responses to statements, that a number of formerly 'strongly agree' responses became 'agree' by the time of the end-line survey.

### 3.1. Profile of the Respondents

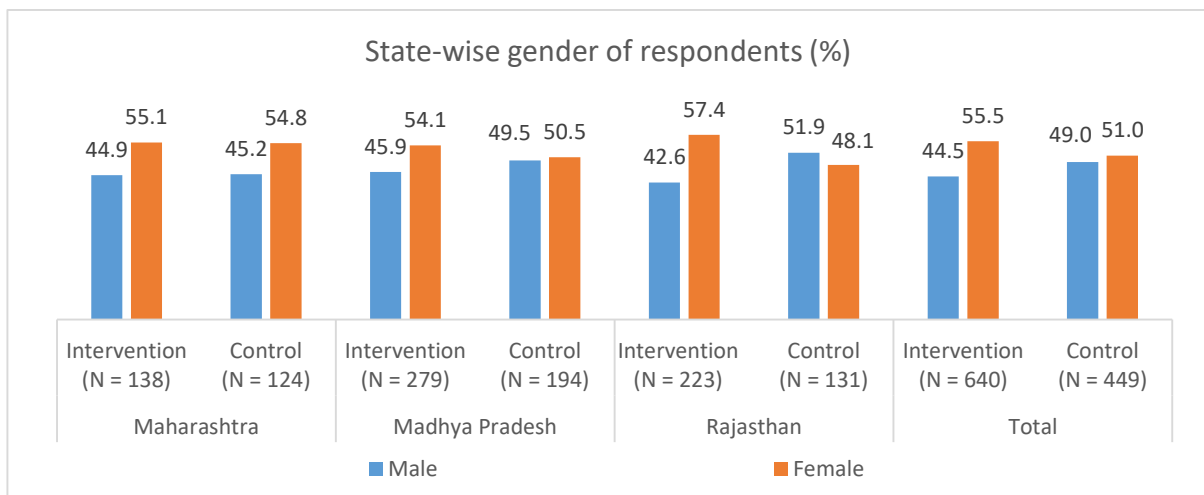
While every effort was made to administer the study tools to the same group of beneficiaries who had been surveyed in the baseline survey of the program, there were differences in recipients of the baseline and end-line assessments due to the following reasons:

- Since the FDP was interrupted midway through its implementation period by the onset of the COVID pandemic, classes were disrupted, and some children dropped out.
- COVID related migration of families made some of the original interviewees unavailable as well as irrelevant for the end-line assessment.

Therefore, while there was a preponderance of class 8 and class 9 students in the baseline survey, the bulk of students in the end-line survey were from class 10, and some from classes 9 and 11. The pattern was followed in both intervention and control areas (*table added in the Annexure to the report*).

The number of respondents in the end-line survey was, thus, 640, with an average age of 12 years, while the baseline survey covered 657 respondents who were, on an average, 15 years old. The control samples in the baseline and end-line studies comprised of 375 and 449 students respectively.

The gender mix was nearly 50:50 in the baseline intervention group but 53:47 in favor of boys in the control group (Figure 2). The end-line control group was more equitable in gender composition, but the intervention group was slightly skewed in favor of boys (45:55). From a state-wise perspective, the gender composition of intervention and control groups was similar in Maharashtra and MP, but in Rajasthan, while the intervention group was skewed in favor of girls (43:57), the control group was skewed in favor of boys (52:48).



**Figure 2: Gender of the respondents**

## 3.2. School Regularity and Environment

### 3.2.1. School regularity and motivation to attend school

As is well known, all action begins with thought and attitude. Thus, gauging and improving the attitude of the students, their parents and the communities towards schools, studies and their future aspirations was a critical component of the program.

In the baseline survey, around 84% of the students in the intervention group and 72% in the control group were attending school five days a week or more. In the end-line survey, there was a 5.8 percentage points increase in regular (5 days or more or week) attendees, to nearly 90%, while the concomitant increase in the control group attendees was lower, at 3.7% (Table 3). This seems to indicate the positive influence of the program’s activities for increased awareness about the importance of education.

The impact of the FDP was reinforced, to a much greater extent, in the findings of the qualitative surveys, in which teachers and community members greatly appreciated the concerted effort from the Magic Bus mentors to raise community awareness about the importance of completing the children’s education through social interaction, and made the students eager to attend school, and their parents and community members to support them.

**A teacher from Kodaroti, MP:**

*“The people from Magic Bus went to the homes of the children who did not come to school and contacted their parents. They went to the children whose parents used to drink and made the children do the household chores. They explained to such children and their parents about the importance of education and brought them to school. So, along with teaching, the Magic Bus teachers also interacted with the parents at the social level. So, it was more effective.”*

**Table 3: Frequency of attending school**

Regularity in school	Baseline		End-line		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 601)	Control (N = 447)	Intervention	Control
5 or more times a week	83.9	71.5	89.7	75.2	5.8	3.7
3-4 times a week	14.2	24.5	9.5	23.9	-4.7	-0.6
1-2 times a week	1.1	1.9	0.3	0.9	-0.7	-1
Infrequently (attend in particular months when do not have to work on farm/ family business)	0.9	2.1	0.5	0	-0.4	-2.1

**3.2.2. Motivations to attend school:**

In both baseline and end-line studies, the most important motivating factors for students to attend school were meeting friends, playing, enjoying classes and liking their teachers. However, as can be seen in Table 4 below, the end-line survey findings clearly demonstrate the impact of the pandemic restrictions on these parameters. For instance, in the end-line survey, a lower percentage of respondents said they were motivated by enjoyment of classes, since classes for a major chunk of this time period had been switched to the online mode, with its attendant issues of technology, access and ability to understand lessons in the online mode. Here the drop is slightly more in intervention group (-9.3%) as compared to the control group (-7.3%).

The ‘playing’ component too has taken a back seat, since the majority of respondents in the end-line survey were from class 10 – a time where studies assume critical importance for moving on to senior secondary level via Board exams, leaving students with lesser time for recreation. Here the drop in the intervention group (-14%) is appreciably greater than in the control group (-8%). A possible reason for this could be that due to greater awareness of the importance of studies because of group activities, the Board class children in the intervention group curtailed their play time to a greater extent.

Meeting friends, however, continues to be a priority for children in all three states in both intervention and control groups. On the other hand, the importance of midday meal being provided in the school has become much less important in both groups (a drop of 24-26%) as a motivating factor for attending school. This drop might be attributed to the fact that ever since the pandemic, dry rations were provided to the families of the students in lieu of midday meals, which has reduced the allure of the meal for the students.

Another important trend observed in terms of motivation to attend school is the somewhat greater increase in intervention group as compared to the control group, in the proportion of students wanting to get a better education (13.2% versus 11.9%) and for getting a job (2.3% versus 1.3%). This trend could well be indicative of the beginning of a trend towards greater awareness of the value of education and aspirations for a better life through a good job. This change in social attitudes might be attributed to the program's activities.

**Table 4: Motivations to attend school**

	Baseline		End-line		Difference	
	Intervention (N = 648)	Control (N = 360)	Intervention (N = 599)	Control (N = 445)	Intervention	Control
<b>I enjoy the classes</b>	78.7	73.6	69.4	66.3	-9.3	-7.3
<b>I like meeting friends</b>	64.5	64.2	64.8	64.7	0.3	0.6
<b>I like playing</b>	73.9	70.8	59.8	62.7	-14.2	-8.1
<b>I like my teachers</b>	51.4	45	49.1	46.5	-2.3	1.5
<b>I like the mid-day meal that is provided</b>	25.9	28.3	2.2	2.2	-23.8	-26.1
<b>For getting good job</b>	0	0	2.2	1.3	2.2	1.3
<b>For getting education</b>	0	0	13.2	11.9	13.2	11.9

Comparing across states for students attending classes because they like their teachers, an appreciable difference between the intervention and control groups can be seen in MP, while it is nearly the same in both Maharashtra and Rajasthan (Table 5).

In MP, 47% students in the intervention group were attending school regularly due to liking their teachers, as compared to a lower 34% in the control group. This could be indicative of the positive results of the Magic Bus activities in imparting improved pedagogies and assessment techniques to teachers and fostering better student-teacher engagement.

**Table 5: State-wise breakdown of motivations to attend school**

	Maharashtra		MP		Rajasthan		Total	
	Intervention (N = 112)	Control (N = 103)	Intervention (N = 244)	Control (N = 190)	Intervention (N = 187)	Control (N = 120)	Intervention (N = 543)	Control (N = 413)
I enjoy the classes	65.0	50.8	73.1	72.8	68.1	71.5	69.4	66.3
I like meeting friends	72.3	66.1	71.1	66.0	52.6	61.5	64.8	64.7
I like playing	48.9	52.4	82.3	77.5	40.4	50.8	59.8	62.7
I like my teachers	50.4	54.0	46.6	33.5	51.2	58.5	49.1	46.5
For getting education	23.4	22.6	7.6	6.8	13.1	9.2	13.2	11.9
I like the mid-day meal that is provided	2.2	2.4	2.4	2.1	1.9	2.3	2.2	2.2
For getting good job	0.7	0.0	1.2	0.5	4.2	3.8	2.2	1.3

### 3.2.3. Benefits of attending school

Apart from motivating factors that attract students towards attending school regularly, a very important role is played by the students' perceptions about the benefits of attending school and gaining education in the context of their future well-being. The responses of the students in this regard have been tabulated in Table 6 and 7 below.

A very noticeable impact of the FDP in this respect is that a higher proportion of respondents in the intervention group across all three states wanted to attend school to have a better future and to get good employment, while the primary motivators for school attendance in the control group continued to be employment and a better marriage prospect. This clearly indicates the positive influence of the program in raising awareness and aspiration for a better life amongst the beneficiaries.

**Table 6: Perceived benefits of attending school**

	Baseline		End-line		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 601)	Control (N = 447)	Intervention	Control
Gain knowledge	91.8	91.2	91.8	89.9	0.07	-1.3
Have a better future	44.0	38.7	72.0	60.2	28.06	21.5
Get employment	54.3	47.2	60.2	56.4	5.90	9.2
Improve family's socio-economic status	17.0	9.9	25.0	28.2	7.91	18.3
Be a more attractive marriage partner	4.9	3.5	5.3	8.9	0.45	5.5
Don't know	0.3	1.9	1.7	2.0	1.36	0.1



**Table 7: Perceived benefits of attending school (state-wise)**

	Maharashtra		MP		Rajasthan		Total	
	Intervention (N = 138)	Control (N = 124)	Intervention (N = 250)	Control (N = 192)	Intervention (N = 213)	Control (N = 131)	Intervention (N = 601)	Control (N = 447)
Gain knowledge	94.9	95.2	92.4	84.9	89.2	92.4	91.8	89.9
Have a better future	74.6	49.2	73.6	60.4	68.5	70.2	72.0	60.2
Improve family's socio-economic status	5.1	6.5	30.4	30.2	31.5	45.8	25.0	28.2
Get employment	68.8	55.6	62.0	64.1	52.6	45.8	60.2	56.4
Be a more attractive marriage partner	0.0	0.0	9.2	15.6	4.2	7.6	5.3	8.9
Don't know	0.0	0.8	1.2	1.0	3.3	4.6	1.7	2.0

**Excerpt from FGD, Teacher from Phoolpur, Rajasthan:**

*“There has been a big change with the Magic Bus program. Now children are getting attracted towards studies. We can teach children more by changing the rules of teaching. We are teaching in the form of poems and games. Children become interested and take part and learn.*

*Now we also prepare topics before taking class, because the children are becoming advanced and ask questions in the class. Earlier they were afraid and did not ask anything. Now we have better technology and prepare to answer their questions.*

*We have reformed ourselves. We behave lovingly with the children and explain things to remove their hesitation. So now children are taking interest in everything.”*

**3.2.4. Career aspiration**

One of the primary focuses of the FDP was to encourage higher career aspirations in the students and guide them about the ways and opportunities for realizing their ambitions through higher education and gaining employable skills. The life skills imparted to the students under the program would create the resilience and awareness of positive, constructive behaviors and choices required along with education and professional skills to fulfil their aspirations.

In this way, the FDP aimed to enable the youngsters to break their generational conditioning and poverty traps, to find increased acceptance in society by bettering their socio-economic condition, improve their families’ standards of living and escape form the vicious cycle of poverty, illiteracy, early marriages and overpopulation.

*Awareness about career choices*

An important part of motivating students towards higher aspirations is making them aware of the various career and employment choices they could avail. When probed about the career choices which they thought were open to them, the respondents in the baseline study, had largely looked at medicine, engineering and teaching, and to a lesser extent, at the army and private jobs (employment in a shop, etc.) (Table 8).

However, in the endline study they showed much greater awareness about government jobs (from 1.8% to 13.2%), jobs with the police (from 1.8% to a whopping 25.1%), army careers (from 12.6% to 20%). Findings from the focus group discussions with students in the program areas revealed that as exposure to the FDP increased their self-worth and confidence, the students began to realize that rather than pipe dreams such as medicine and engineering, there were a larger number of careers which are more within their reach, and more suited to their inclinations. Majority of the adolescents (62.8%) were aware of at least three career options.

**Table 8: Awareness about career options for the future**

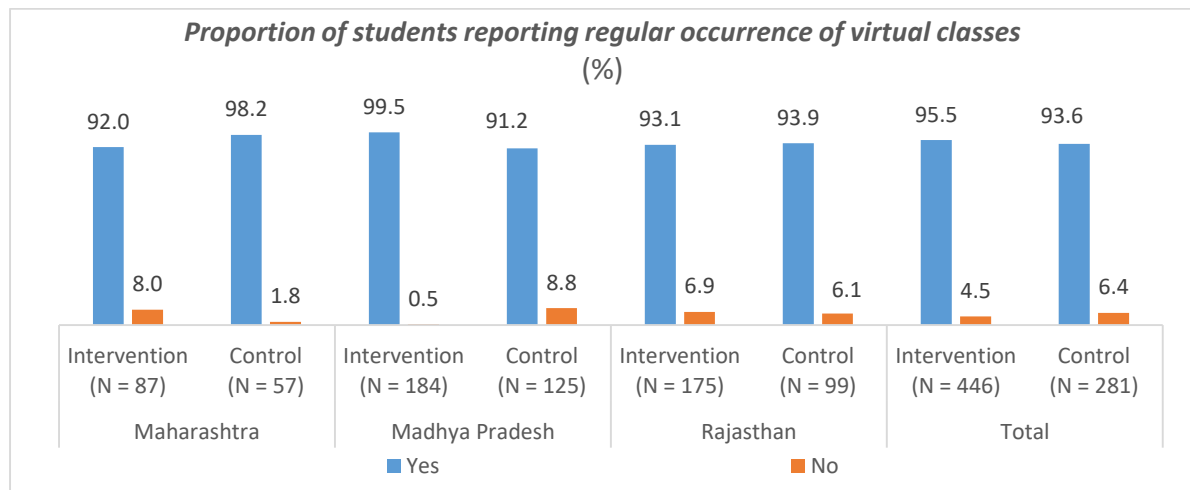
	Baseline		Endline		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 601)	Control (N = 447)	Intervention	Control
<b>Doctor</b>	55.8	58.4	66.1	70.0	10.3	11.6
<b>Engineer</b>	43.4	47.2	39.4	46.1	-4.0	-1.1
<b>Teacher</b>	65.4	65.1	64.6	72.9	-0.8	7.9
<b>Pilot</b>	9.0	9.3	12.1	11.2	3.2	1.9
<b>Army</b>	24.1	35.2	41.8	53.9	17.7	18.7
<b>Scientist</b>	3.2	2.7	3.0	6.9	-0.2	4.3
<b>Sportsperson</b>	5.9	4.3	4.7	5.6	-1.3	1.3
<b>Own business</b>	3.7	5.6	12.0	11.0	8.3	5.4
<b>Accountant</b>	0.9	0.3	3.3	6.0	2.4	5.8
<b>Reporter</b>	1.4	1.9	1.0	2.7	-0.4	0.8
<b>Farmer</b>	9.6	12.5	7.7	7.8	-1.9	-4.7
<b>Artist</b>	3.5	2.9	0.8	3.1	-2.7	0.2
<b>Government job</b>	29.1	28.3	31.1	28.0	2.0	-0.3
<b>Private Job</b>	3.4	3.2	7.5	9.4	4.1	6.2
<b>Police</b>	0.0	0.0	52.4	55.9	52.4	55.9
<b>Nurse</b>	0.0	0.0	4.0	5.8	4.0	5.8
<b>Other</b>	10.2	11.2	6.3	5.8	-3.9	-5.4

### 3.2.5. Impact of COVID on the education of children

The onset of the COVID pandemic, midway through the FDP, had a majorly disruptive effect, not only on the program, but also on the general studies and lives of the people in the district. Sickness and fatalities due to the disease, the need for social distancing which deprived people in trouble of their usual social support, in addition to loss of employment and incomes were some of the factors that adversely impacted the situation. Schools had to be closed and regular classes discontinued. Obviously, in these conditions, the program personnel too had to curtail their interactions with the students, which may have led to dampening the efficacy of the overall program. Both qualitative and quantitative findings of the end-line survey make it clear that even though efforts were made to minimize the disruptive impact of COVID on the children's studies, it was not possible for a major

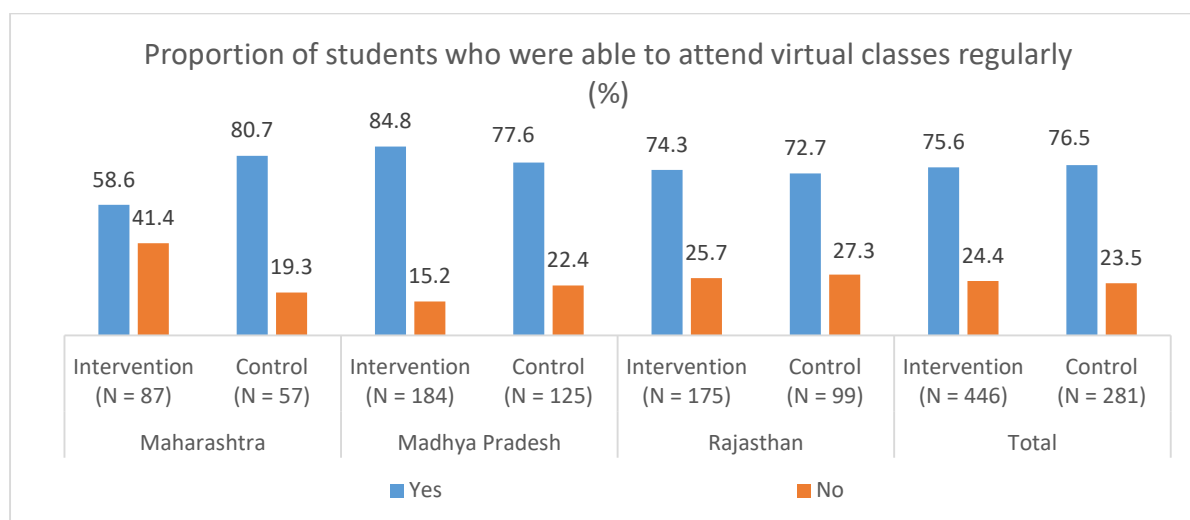
proportion of the students to study uninterruptedly due to a number of reasons, such as technological issues, lack of access to phones, demands of the household and need to earn.

The findings in this regard were almost uniform for the intervention and control groups, except in Maharashtra. While more than 90% respondents across all three states said that virtual classes were conducted regularly by the schools throughout the duration of the pandemic, only 75% of the total students said that they were able to attend these classes regularly (Figure 3).



**Figure 3: Proportion of students reporting regular occurrence of virtual classes**

Of these, the highest proportion of regular attendees was from MP (85% intervention and 78% control), followed by Rajasthan (74% and 73% respectively), while the intervention group students from Maharashtra lagged behind at 59% as against 81% from the control group (Figure 4). This seems to be a case of sample bias as the number of control schools covered in Maharashtra were far lower than the intervention school.



**Figure 4: Proportion of students who were able to attend virtual classes regularly**

The **major barriers to attending online classes during COVID** were technology related, whether it was access to mobile phones, cost of internet recharge or network issues. Around 35% intervention students from Maharashtra and 60-65% respondents in MP and Rajasthan intervention groups said that they were hampered by lack of any kind of access to a mobile phone, whether parents' or neighbor's (Table 9).

In the control groups, access to mobile was the challenge for 100% students in Maharashtra and Rajasthan, and 86% in MP. Other, minor technology related issues were network issues (highest in MP, at 14% for intervention and 25% for control group), and difficulty in understanding the technology/ audio issues (8.3% each in Maharashtra intervention group and 3.6% each in both intervention and control groups in MP). There were also issues, to a minor extent, in understanding the lessons and inability to clear doubts (5-7%) and inability to attend due to household and employment related responsibilities (less than 3% in Maharashtra intervention group, but much higher, between 14% and 20% in MP and Rajasthan for both intervention and control).

**Table 9: Reasons for not being able to attend virtual classes**

	Maharashtra		MP		Rajasthan		Total	
	Intervention (N = 36)	Control (N = 11)	Intervention (N = 28)	Control (N = 28)	Intervention (N = 45)	Control (N = 27)	Intervention (N = 109)	Control (N = 66)
Parents' phone so was not there when they went for work	33.3	100.0	50.0	71.4	55.6	74.1	46.8	77.3
Neighbour/ Friends phone was not always available	2.8	0.0	10.7	14.3	8.9	37.0	7.3	21.2
Network issues	5.6	0.0	14.3	25.0	11.1	0.0	10.1	10.6
Too costly to get internet recharge	0.0	0.0	7.1	28.6	2.2	3.7	2.8	13.6
Phone battery issues	0.0	0.0	0.0	14.3	0.0	0.0	0.0	6.1
Had to go out to work sometimes	2.8	0.0	3.6	10.7	8.9	7.4	5.5	7.6
Had to take care of household work	0.0	0.0	10.7	7.1	11.1	11.1	7.3	7.6
Teachers' internet issues	5.6	0.0	0.0	0.0	0.0	0.0	1.8	0.0
Sound issues	8.3	0.0	3.6	3.6	0.0	0.0	3.7	1.5
Was not able to ask doubts	5.6	0.0	7.1	7.1	0.0	0.0	3.7	3.0
Difficulty in understanding the technology	8.3	0.0	3.6	3.6	0.0	0.0	3.7	1.5
Difficulty due to lack of peer group support	0.0	0.0	0.0	3.6	0.0	0.0	0.0	1.5
No mobile available	58.3	0.0	39.3	14.3	17.8	7.4	36.7	9.1

### **3.2.6. Impact of the program**

As compared to the control group respondents, a higher proportion of respondents in the intervention group wanted to attend school to get better employment and have a better future. This clearly indicates the positive influence of the program in raising awareness and aspiration for a better life amongst the beneficiaries.

There was a noticeable difference between the proportion of students in the intervention and control groups who were motivated to attend school because they enjoyed classes and liked their teachers, as the teacher mentoring under the FDP improved student-teacher engagement in the program areas.

In the end-line survey, a lower percentage of respondents (-9.3%) were motivated by enjoyment of classes, since classes for a major chunk of this time period had been switched to the online mode, with problems of technology, access and ability to understand lessons in the online mode. Playing too has taken a back seat (-14.2%), since the majority of respondents in the end-line survey were from class 10 – a time where studies become very important for moving on to senior secondary level via Board exams, leaving students with lesser time for recreation. The lower proportion of students attending school for play purposes could be attributed to the impact of the program in terms of increase in a more serious attitude towards studies in order to make a better future for themselves and their families

### **3.2.7. Learnings**

The concerted effort from the Magic Bus team to raise community awareness about the importance of completing the children's education through social interaction had a positive impact upon the community's attitude towards children's education.

Another impact of the FDP is that a higher proportion of respondents in the intervention group wanted to attend school to gain knowledge and have a better future (92% and 72% versus 90% and 60% respectively), while the primary motivators for school attendance in the control group continued to be employment and a better marriage prospect.

There was also a noticeable difference between the proportion of students in the intervention and control groups who were motivated to attend school because they enjoyed classes and liked their teachers, which shows that the mentoring of teachers under the FDP helped in fostering better student-teacher engagement.

## **3.3. Perception on school and participation in class**

As is well known, all action begins with thought and attitude. Thus, gauging and improving the attitude of the students, their parents and the communities towards schools, studies and their future aspirations was a critical component of the program. The FDP encompassed activities such as group projects, open discussion and life skills session, largely imparted through play. The teachers too were trained in pedagogical methods and imparted tools to enhance student-teacher rapport and assessment techniques, for better scholastic as well as co-scholastic outcomes and to elevate the overall school experience for all concerned parties. This section presents and analyses the findings from intervention versus control group respondents on these critical aspects, to evaluate the extent of impact of the FDP in the three states with regard to awareness about the importance of education.

As can be seen in Table 10, after the implementation of the FDP, intervention group students in MP showed a definitely improved perception towards school (96%) as compared to control group students (67%). There was not much difference in this parameter between the intervention and control students in Maharashtra and Rajasthan. As per the findings of the qualitative surveys, the improved perception pertained, not only to their right to study, but also to an increased feeling of well-being while in school.

**Table 10: Students perception about school environment**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N = 138)	Control (N = 124)	Intervention (N = 250)	Control (N = 192)	Intervention (N = 213)	Control (N = 131)	Intervention (N = 601)	Control (N = 447)
<b>It is my right to be in school</b>	89.1	91.1	95.6	66.7	84.0	87.0	90.0	79.4
<b>I get time to play with my friends</b>	71.0	82.3	84.4	76.0	48.4	67.9	68.6	75.4
<b>I don't like coming to school</b>	8.7	2.4	10.8	16.7	26.3	34.4	15.8	17.9
<b>I use the toilets in the school to urinate</b>	86.2	91.1	61.6	39.6	70.9	68.7	70.5	62.4
<b>I use the toilets in the school to defecate</b>	13.8	11.3	28.8	30.2	4.7	26.0	16.8	23.7

\* Above figures are based on 'Always' response

### 3.3.1. Activities preferred and engagement in class

In order to assess the changing trends in class participation and perceptions about school, the respondents were asked to respond on a scale of 'always-sometimes-never' to questions about whether they participate and work hard in class, ask questions, feel appreciated for performing well, and whether they think that class activities are fun.

On most parameters (except asking questions in class), the difference between baseline and end-line responses is definitely greater for intervention students than for control ones, as can be seen in the table 11 below. This is indicative of the role of the program intervention in deepening classroom engagement and giving the students the impetus as well as the confidence to take interest in their education.

**Table 11: Students' engagement in class**

	Baseline		End-line		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 601)	Control (N = 447)	Intervention	Control
<b>Students' engagement in class</b>	48.6	40.8	56.2	47.7	7.7	6.9
<b>Activities are used to make classes fun</b>	37.7	28	49.1	36.9	11.3	8.9
<b>Students participate in classroom discussion</b>	42.9	39.2	58.7	51	15.8	11.8

\* Above figures are based on 'Always' response

**A 15 year-old male student from Kolua, Rajasthan:**

*“If we study in life, we will get a good job. We were able to behave well in the society. People will like us. If we don't study, we will always work as labour and live like this ...”*

Additionally, findings from FGDs with students clearly indicated that the efforts of the Magic Bus instructors to deepen learning engagement for students was highly appreciated by the students.

However, in terms of a state-wise comparison of these findings, as the graphs below show, the greatest program impact in deepening classroom engagement has been in MP, almost across all parameters, and accounts almost single-handedly for the composite differential between the baseline and end-line results.

**A class 10th female student from Mandai Khurd, Betul, MP:**

*“Sir used to help us whenever we had any problem in studies – in Math and all the subjects. Sir used to explain a lot to us by doing practicals ... Earlier I was afraid to ask questions. Sir told us that whatever question you have in your mind, ask us face to face. Don't be afraid to speak.”*

### 3.3.2. Impact of the program

Magic Bus mentors' efforts to raise community awareness about the importance of completing the children's education through social interaction had a positive impact upon the community's attitude towards children's education.

Even though the quantitative indicators from the intervention group and the control group regarding classroom engagement and learning were somewhat similar in Maharashtra and Rajasthan, and might be attributed to the organic process of growing up, the impact of the program is evident in MP in the form of visibly higher improvement in intervention groups than in the control groups.

On a qualitative level, too, the efforts of the Magic Bus mentors to deepen learning engagement for students was highly appreciated by the students.

Further, community awareness and adding to the students' learning experiences is expected to act as the basis of creating sustainable impact on the community's perceptions about education and bring about lasting change.

### 3.3.3. Learning

Even though learning engagement seems to be deepening organically as children grow older and become serious about their studies, and the government's education related schemes promote positive outcomes, there is a definite space for interventions by programs like DISHA to foster positive attitudes about education and better living standards in the community that sustain over generations and enable the marginalised communities to break free of their generational toxic conditions. In MP the scope for further improvement is also high.

### 3.4. Life skills

Inculcation of life skills such as problem solving, decision making, self-determination & self-efficacy, emotional resilience and social resilience was a cornerstone of the FDP, with the broad-based objective of fostering the capability to deal with problematic life situations, think with a level head and rise above their life situations to realize their potential. This section interprets the findings of the study with regard to life skills related responses of the program beneficiaries.

To rate the adolescents on their skill levels in areas on 'Problem solving', 'Self-management and Decision making, perceived self-efficacy and resilience, the total score was calculated based on the aggregate score for each child on a set of questions under each thematic area. The scores falling in various ranges were further grouped as *Good, Average and Poor* categories.

#### 3.4.1. Problem Solving

The problem solving skills of intervention and control group students were assessed on the basis of responses on a four-point Likert scale, to statements<sup>23</sup> about the respondents' ability to identify their problems and ways of dealing with them, such as seeking information, discussing with parents and friends, considering the pros and cons of decisions and thinking about how their previous decisions had turned out. The categorisation of the score was done as follows: (9 to 18): Poor; (19 to 27): Average and (28 to 36): Good.

As can be seen from the table 12 below, the composite scores compiled on the basis of the Likert responses show almost double the percentage of 'good' responses (80%) in intervention areas as compared to the control areas (41%), testifying to the success of the FDP in engendering strong problem-solving skills among the program beneficiaries.

At the state-wise level, the lowest extent of impact is seen in Maharashtra, where the difference in 'good' score is barely 20%, as compared to around 45% each, for both MP and Rajasthan. However, it has to be pointed out that the control group's 'good' score in Maharashtra were already around 20% higher than those in MP and Rajasthan, probably affording a lower scope for impact of the program.

**Table 12: Composite score of problem-solving Likert scale statements**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N - 138)	Control (N - 124)	Intervention (N - 279)	Control (N - 194)	Intervention (N - 223)	Control (N - 131)	Intervention (N - 640)	Control (N - 449)
<b>Good</b>	75.4	55.6	80.6	36.1	81.6	35.9	79.8	41.4
<b>Average</b>	23.9	31.5	19.0	63.4	18.4	64.1	19.8	54.8
<b>Poor</b>	0.7	12.9	0.4	0.5	0.0	0.0	0.3	3.8



### 3.4.2. Self-management and Decision-making

Self-management and decision-making play a critical role in character building by engendering traits such as ethics, fair-play, determination and goal achievement. The composite scores in the table below are based on the students' responses on a four-point Likert Scale, to questions<sup>24</sup> pertaining to self-management and decision-making abilities, such as decisiveness, rational decision-making, perseverance, making sure everyone is treated fairly, being able to resist peer pressure and being able to identify the positive and negative consequences of behaviour. The scoring methodology followed was: (20 to 39): Poor; (40 to 59): Average and (60 to 80): Good.

As can be seen in Table 13, a 23 percentage points difference between the 'good' scores of intervention and control students highlights the impact of the program. Across states, the greatest impact is seen in MP, where the good score of intervention students, at 59% is 28% higher than those of control students at 31%, and accounts for the bulk of the 'total' difference between the two groups. This difference is a lower at 20% for Rajasthan, and 17% for Maharashtra.

**Table 13: Composite score of self-management and decision-making Likert scale statements**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N - 138)	Control (N - 124)	Intervention (N - 279)	Control (N - 194)	Intervention (N - 223)	Control (N - 131)	Intervention (N - 640)	Control (N - 449)
<b>Good</b>	52.9	36.3	59.1	31.4	58.7	38.9	57.7	35.0
<b>Average</b>	46.4	55.6	40.9	68.6	41.3	61.1	42.2	62.8
<b>Poor</b>	0.7	8.1	0.0	0.0	0.0	0.0	0.2	2.2

#### Impact of the program

There is definite improvement in the program beneficiaries with regard to improved problem solving, emotional resilience and dealing with peer pressure. While some of the markers show similar results in intervention and control areas, a higher proportion of respondents from the intervention showed improved ability to analyse and solve their problems, take sound decisions based on past experiences and knowledge, control their emotions and resist peer pressure.

The efficacy of the program is, thus, evident in the improved outcomes in these life skills for the program beneficiaries. As per the qualitative findings, the program's method of disseminating healthy attitudes and life skills through games and group activities has had a marked positive impact on the students as well as other members of the community.

#### **A class 10th female student from Betul, MP**

*"We learned a lot, got a lot of help, they taught us communication skills, taught us to take right decisions, learned to self-reflect, know ourselves better, never considered ourselves weak or weaker than anyone, learned to manage our emotions."*

### Learning

Life skills are a crucial aspect of empowerment, especially for the children and youth from marginalised communities who need to overcome innumerable challenges inherent from birth and their life situation. To enable them to emerge from the vicious cycle of poverty, illiteracy, unemployment, large families and despondency, and to realize their potential, it is essential to supplement their scholastic progress with inculcation of these life skills. Programs like Magic Bus DISHA have a critical role to play in delivering these outcomes to these communities.

#### 3.4.3. Self-perceived efficacy

The ability to weigh the consequences of their actions, deal with problems and unforeseen situations, goal setting and remaining calm in the face of adversity are some of the indicators of an efficacious person. The FDP personnel made concerted efforts to seed these traits in the recipients of the intervention, in order to enable them to lead happy and successful lives.

Self-perceived efficacy is a life skill composite of a number of traits, which were assessed on a Likert scale for students of both intervention and control groups, and the responses collated to arrive at the composite table given below. The statements<sup>25</sup> on which responses were sought from the students pertained to perseverance in the face of difficulties, resourcefulness, focus in pursuit of goals, ability to handle unforeseen situations and ability to deal with problems confidently and calmly. The scoring methodology followed was: (12 to 20): Poor; (21 to 29): Average and (30 to 48): Good.

The impact of the program on this life skill can be seen from a 9% difference between the good scores of the intervention and control children (Table 14). The lowest degree of impact (2%) can be seen in Rajasthan, while both MP and Maharashtra show a 10% difference in the good scores of intervention and control respondents. However, the remarkable feature about Maharashtra is truly abysmal self-efficacy scores all round, with zero good scores and an enormous 23% poor scores. Thus, even with an 11% increase in good scores, the total good score of the intervention students in Maharashtra is less than half of the good score of even the control students in the other two states. This could argue extremely poor self-perceived efficacy in the aftermath of COVID, which had amongst the most virulent impacts on Maharashtra.

**Table 14: Composite score of self-perceived efficacy Likert scale statements**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N - 138)	Control (N - 124)	Intervention (N - 279)	Control (N - 194)	Intervention (N - 223)	Control (N - 131)	Intervention (N - 640)	Control (N - 449)
<b>Good</b>	10.9	0.0	31.2	21.6	25.1	22.9	24.7	16.0
<b>Average</b>	83.3	77.4	61.3	63.4	71.7	74.8	69.7	70.6
<b>Poor</b>	5.8	22.6	7.5	14.9	3.1	2.3	5.6	13.4

However, for both groups, respondents who were confident about dealing with unexpected events and unforeseen situations rose from 72% to around 85%. Thus, the impact of the program in this respect is unclear, as can be seen from the table below that records consolidated responses from the intervention and control group students.

**A teacher, Kodaroti, MP**

*“Life skills were given, they used to ask the children about things, they used to make teams to play, they make them play snake ladder game by making snakes and ladder at school, children used to learn a lot from this, they used to have a lot of fun, children used to play again and again after losing, Children used to learn not to be disappointed by defeat, they used to teach life skills through sports.*

*Yes, we used to teach children through stories, make them do comparative studies, we used to solve their problems through games, we also used to solve the difficulties regarding studies.”*

**Learning**

While some life skills pertaining to self-efficacy, such as dealing with unforeseen situations and analysing one’s own behaviour might develop spontaneously, or be self-taught, other critical skills such as leadership and organization, goal setting and goal accomplishment are better developed through exposure to programmes such as DISHA. There is, thus, definite scope for the program to bring about improvement in self-efficacy outcomes of students.

**3.4.4. Resilience**

The characteristic of resilience as envisaged by the FDP was predicated upon a composite of various traits such as having role models to engender aspirations, understanding the importance of education, self-control, self-improvement and up-skilling and of remaining grounded by connecting with families, friends and the community to grow into empowered and successful citizens. The statements<sup>26</sup> pertaining to these traits were administered to the respondents on a Likert scale, and their responses collated to compile the composite scores in the table below. The scoring methodology followed for the three-point Liker scale questions was: (16 to 24): Poor; (25 to 33): Average and (34 to 48): Good.

As can be seen in Table 15 below, the program’s impact on the resilience of students can be described as uncertain, at best. According to the findings of the study, the resilience scores of the respondents, even in the control areas, were already quite high, leaving little scope for the program’s intervention. In fact, in Rajasthan, the control children had a good score of 100%, while the intervention students registered 95%, taking the total across states for intervention students lower than the control group’s score.

**Table 15: Composite score of resilience Likert scale statements**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N - 138)	Control (N - 124)	Intervention (N - 279)	Control (N - 194)	Intervention (N - 223)	Control (N - 131)	Intervention (N - 640)	Control (N - 449)
<b>High resilience tendency</b>	92.8	88.7	96.1	96.9	94.6	100.0	94.8	95.5
<b>Average resilience tendency</b>	7.2	11.3	2.5	3.1	4.9	0.0	4.4	4.5
<b>Low resilience tendency</b>	0.0	0.0	1.4	0.0	0.4	0.0	0.8	0.0

### *Impact on Resilience*

**Social resilience and aspirations:** Youngsters who have the skill of social resilience stand a better chance at achieving their goals. It is also a well-documented fact that having role models fosters ambition and aspirations, as well as a wish to improve. In this context, more than 70% program beneficiaries, as compared to less than 50% in the baseline study, said that they had role models, i.e., the people they wanted to emulate. By contrast, the respondents from the control group who said they had role models increased to a somewhat lesser extent, from 47% to 64%. It is thus reasonable to deduce that exposure to Magic Bus personnel and activities inculcated higher aspirations in the intervention beneficiaries.

### *Learning*

The Magic Bus program had a positive impact in terms of fostering social resilience and community connect amongst the beneficiaries. The youngsters learned to appreciate their communities and families, and became more securely connected to their roots, which will make them more resilient members of the community and society in future.

#### **Male student, class 10, Mandai Bujurg, MP**

*“If we were hesitating in any work, he used to encourage us to leave the hesitation and do the work. If someone has some issue or problem, don't worry, you can take help from parents, teachers of magic bus or any elder at home. They taught us, how we should behave with others, don't abuse, talk to people in a nice way. He told us about body language, how we should treat people, taught us to understand people, and understand their problems and how to help them.”*

### **3.5. Community connect**

It is famously said that a person derives his inner strength from his tribe. Thus, a youth with a sound community connect stands a much higher chance of bearing the vicissitudes of life and emerging triumphant, than those who are disconnected from their communities and their roots. Youngsters who have the skill of social resilience stand a better chance at achieving their goals. It is also a well-documented fact that having role models fosters ambition and aspirations, as well as a wish to

improve<sup>27</sup>. In this context, more than 70% program beneficiaries, as compared to less than 50% in the baseline study, said that they had role models, i.e., the people they wanted to emulate (Table 16).

In terms of family and community connect, 85% respondents in the endline, as against 60% in the baseline study felt a bond and a feeling of being understood by their parents/ caregivers, and nearly 80% said that their outlook towards their education as well as towards their parents’ support had become more positive.

More than 81% respondents, as compared to 55% in the baseline period said they knew where to go to get help, while 87% (as compared to 65% earlier) felt a sense of belonging at their schools. There were observed increases of similar magnitude in feelings of being supported by their families and friends, as well as of being treated fairly. Around 75% beneficiaries of the program felt a deeper community connect and an increased sense of participation in community events as a result of program experiences in school, as well as better appreciation of the importance of life skills and community values.

**Table 16: Proportion of students who reported to have role model**

	Baseline		Endline		Difference	
	Intervention (N=657)	Control (N=375)	Intervention (N=640)	Control (N=449)	Intervention	Control
<b>Students who have a role model</b>	49.8	47.2	70.3	64.4	20.5	17.2
<b>Students who feel that my parents/care givers know a lot about me</b>	59.5	61.1	84.8	82.9	25.3	21.8
<b>Students whose outlook towards education and towards my parent's support has become more positive</b>	-	-	78.3	71.3	-	-
<b>Students who reported to know where to get help</b>	55.3	52.3	81.1	75.7	25.8	23.5
<b>Students whose sense of community participation and support has been positively impacted by school activities</b>	-	-	79.5	74.4	-	-
<b>Students who now have a better appreciation of the importance of life skills and community values</b>	-	-	82.3	71.7	-	-

\* Above figures are based on ‘Yes’ response

<sup>27</sup> Morgenroth, T., Ryan, M. K., & Peters, K. (2015). *The Motivational Theory of Role Modeling: How Role Models Influence Role Aspirants’ Goals*. *Review of General Psychology*, 19(4), 465–483

### 3.6. Sport and play

Since a prominent strategy of Magic Bus program implementation was molding mind sets of the students through sports and activities, the prevailing norms of play and sports participation added significance in the context of the program.

#### **A female student from class 10, Betul, MP**

*The Magic Bus people taught us everything that we did not know, taught us about the different games, and taught about the useful things in life while playing the games.”*

#### **A mother, Nalgandi, Rajasthan:**

*“The program was very beneficial. Now children are studying, and they learned many games. They are moving forward. There has been improvement in studies and they have started going to school every day because they like to play different kinds of games. Earlier they do not want to go every day.”*

#### **A teacher, Saphdalpur, MP:**

*“Magic Bus teaches children while playing games, which develops their physical and mental abilities ... When a child plays sports and their participation increases, he gets a healthy environment to study, the child studies diligently.”*

#### 3.6.1. Recreational and play behaviours

Even though the highest proportions of respondents in both intervention and control groups across all three states said that they played every day, in both MP and Rajasthan, a lower proportion of students played every day in the intervention group as compared to the control group. This could very well be because most respondents are from class 10, which is an important Board class, whose results will affect their future. So, children from intervention group being more focused on their future due to the program’s activities, may have curtailed their play time to a larger extent.

Further, as can be seen in the table 17 below, the proportion of children playing every day in intervention groups has risen negligible (1.2%), while those on the control group are up by nearly 8% which could be an of the restrictions imposed by the need to study for Board exams. In fact, nearly 4% of the intervention students said they don’t play at all. The school playground, however, remains the favorite play space for most of those who play (Table 18).

**Table 17: Frequency of playing recreational games/sports**

	Baseline		End-line		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 640)	Control (N = 449)	Intervention	Control
<b>Everyday</b>	46.9	45.1	48.1	53	1.2	7.9
<b>3-4 times a week</b>	27.7	29.3	20	21.6	-7.7	-7.7
<b>Twice a week</b>	8.2	6.7	10.5	8.7	2.2	2
<b>Once a week</b>	4.7	2.4	6.7	3.8	2	1.4
<b>Whenever I get the time</b>	11.7	15.5	9.5	10.5	-2.2	-5
<b>Can't Say</b>	0.2	0.5	0.6	0.7	0.5	0.1
<b>Don't play at all</b>	0.6	0.5	4.5	1.8	3.9	1.2

**Table 18: Places where students play**

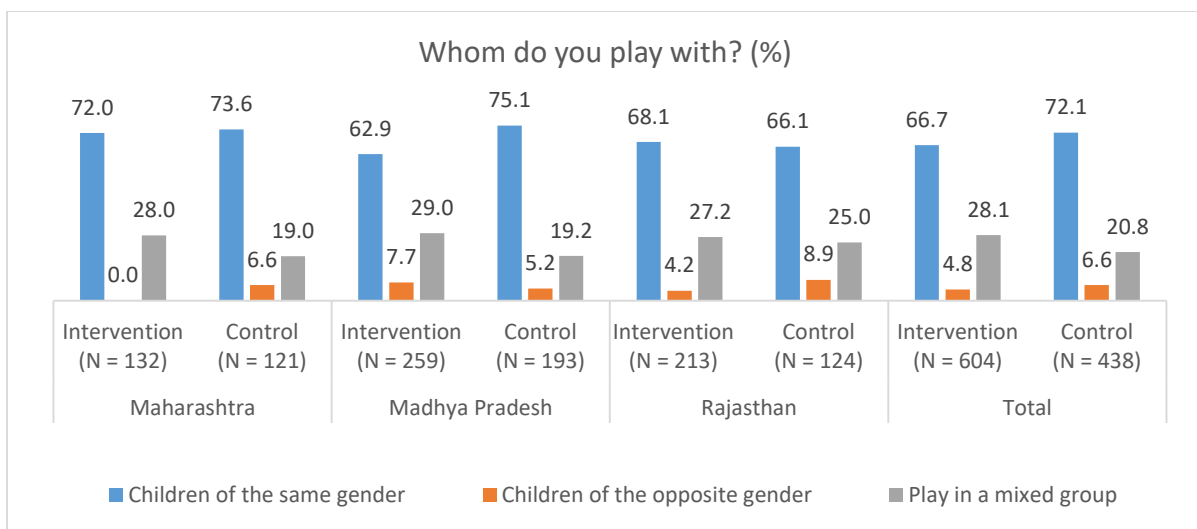
	Baseline		End-line		Difference	
	Intervention (N = 653)	Control (N = 373)	Intervention (N = 604)	Control (N = 438)	Intervention	Control
<b>In the school playground</b>	77.3	43.2	94.7	90.6	17.4	47.4
<b>In the community / village playground</b>	6.3	26.3	34.1	38.1	27.8	11.8
<b>At home</b>	3.7	13.4	32.5	23.7	28.8	10.3
<b>All of the above</b>	12.7	17.2	2.0	1.4	-10.7	-15.8

However, there was a slight shift in gender segregation during play. Here the program's impact on gender attitudes seems evident, since the proportion of children playing only with same gender kids fell much more (by 6.4%) in the intervention group than in the control group (0.4%), as can be seen in the table 19 below. Further, the incidence of play in mixed groups recorded a 2% increase in case of intervention students, as against a 4.8% decrease in the case of control students. This again demonstrates the gender-inclusive trend in play fostered by the FDP intervention.

**Table 19: Over time treatment and control responses to, "Whom do you play with?"**

	Baseline		End-line		Difference	
	Intervention (N = 655)	Control (N = 372)	Intervention (N = 604)	Control (N = 438)	Intervention	Control
Children of the same gender	73.1	72.6	66.7	72.1	-6.4	-0.4
Children of the opposite gender	0.8	1.9	4.8	6.6	4	4.7
Play in a mixed group	26.1	25.5	28.1	20.8	2	-4.8

Across all three states, a higher proportion of students from the intervention samples preferred to play in a mixed group, as compared to students from the control samples.



**Figure 5: State-wise breakdown of responses to, "Whom do you play with?"**

Most respondents (50%) who preferred to play with same gender children said they were more comfortable doing so. Around 15% said that their elders objected to their playing with children of the opposite gender, while another 10% said that they avoided mixed groups in play since boys tend to be stronger and rougher, due to which girls could get hurt.

However, there was a definite impact of the Magic Bus program in the normative shift in thinking about sports from a gender perspective, as the proportion of respondents who felt that girls should play outdoor sports such as football rose by more than 19%, from 78% in the baseline period, to 97% after the program implementation. By contrast, this increase in the control group was lower at less than 15%, from 81% to 96% (Table 20).



**Table 20: Perceptions of traditional gender roles: should girls play outdoor sport such as football**

	Baseline		End-line		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 640)	Control (N = 449)	Intervention	Control
<b>Yes</b>	77.9	80.8	97.2	95.5	19.3	14.7
<b>No</b>	22.1	19.2	2.8	4.5	-19.3	-14.7

**Female student, Kolua, Rajasthan:**

*“The Magic Bus program helped us in studies. We learned to study while playing sports, it increased our self-confidence. We learned to talk to boys because now when we play together, we talk too.”*

**Male student, Mandai Bujurg, MP:**

*“When we were young, we used to play together with everyone, but when we grew up, we started discriminating on caste and religion, and also between boys and girls. When Bhaiya from Magic Bus told us that all this must not happen, then we started playing together with everyone.”*

**3.6.2. Impact of the program**

There was a definite shift in gender segregation during play in both intervention and control areas, which is significantly higher in intervention areas as compared to control areas across all three states. In the end-line study a lower proportion of respondents said that they played only with same gender children. While some part of this shift may stem from a spontaneous change in thinking with changing times and greater exposure to liberal ideas by way of the media and internet, the impact of the program is evident as this shift is quite a bit higher in intervention areas.

There was also a definite quantifiable impact of the Magic Bus program in terms of normative shift in thinking about sports from a gender perspective. The proportion of respondents who felt that girls should play outdoor sports such as football rose to a greater extent in the intervention areas as compared to the control areas.

Due to the impact of the FDP, the percentage of respondents who felt that boys and girls should play outdoor sports together showed a greater increase in the intervention areas than in the control areas and a higher proportion of students from intervention areas said they were more confident talking to people from the opposite gender, as compared to the control area.

**3.6.3. Learning**

As children grow older and even children from the marginalised communities get greater exposure to the internet and media, disseminating liberal thought, there is an organic shift in gender segregation in play. However, the real role of program interventions like the FDP lie in catalysing change in community attitudes and thought through social interaction and direct engagement with the youth. This kind of interventions can accelerate the pace of these changes entrenched attitudes.

### 3.7. Gender Perception and Attitudes

Gender perceptions play a critical role in levels of empowerment and the overall life experiences in communities. Since gender equity was one of the co-scholastic components of the program, it involved inculcating healthy gender attitudes amongst the youth of the program areas. It was, thus, essential to assess the gender perceptions of the communities before and after the program to gauge its efficacy.

Breaking gender stereotypes entrenched in patriarchal societies, and even more so in impoverished and/or marginalized communities is a vital aspect of empowerment and progress, especially for the youth. The impact assessment study tools encompassed a number of questions that probed the gender related attitudes and perceptions of the students in the project areas on a Likert Scale. These included thoughts about whether or not boys and girls should play together, whether children of both genders should help equally in the house, whether both should be given equal opportunities to study and earn and whether families should give equal priority to the healthcare and education needs of children of both genders. Besides, the questionnaire also addressed community-based conditioned gender attitudes such as the need for women to seek permission to step out of the house or to earn money, lac of decision-making power of women in the family, the preference for male leaders in educational institutions, community, religious groups, etc., and the imperative for parents to give dowry at their daughters' weddings.

The responses to such 10 questions<sup>28</sup> have been collated to calculate composite scores on gender attitudes amongst the respondents in both intervention and control areas of the program. Since it responses were marked on a four-point Likert scale, the categorization was done with the following cut-off values: (10 to 19): Poor; (20 to 29): Average and (30 to 40): Good.

As can be seen from the table 21 below, the overall 'good' score of the intervention areas, at 56%, was appreciably higher than 31% in the control areas, attesting to the impact of the FDP in inculcating positive gender attitudes in the intervention areas. The lowest impact is seen in Rajasthan, where the difference between good score in the intervention and control areas is less than 17%, while in both MP and Maharashtra, the difference is much higher, at around 29% each. Rajasthan being a notoriously patriarchal state as a whole seems to have a bearing on the findings, as entrenched attitudes of any kind are extremely slow to change.

**Table 21: Composite score of gender attitudes related Likert scale statements**

	Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N - 138)	Control (N - 124)	Intervention (N - 279)	Control (N - 194)	Intervention (N - 223)	Control (N - 131)	Intervention (N - 640)	Control (N - 449)
<b>Good</b>	60.1	31.5	55.2	26.3	54.7	38.2	56.1	31.2
<b>Average</b>	39.1	65.3	43.7	67.5	44.4	60.3	43.0	64.8
<b>Poor</b>	0.7	3.2	1.1	6.2	0.9	1.5	0.9	4.0

*Factors in improved gender perception and attitudes and the effect on outcomes*

The role of the Magic Bus program could be detected in the increased shift in gender perceptions in the areas of program intervention, since the corresponding changes in the control areas were of a lower magnitude on most aspects.

Healthier perceptions about traditional gender roles and social hierarchies were disseminated by the program personnel, through interactions with the students, teachers and community members, and the shift has started becoming evident, especially in comparison to the pace of such a shift in the control areas. This change in perception is slowly but surely revolutionising the thinking around gender roles in these communities and inculcating self-confidence, self-esteem and a sense of self-perceived efficacy and resilience among women.

While some part of the improvement observed in gender related attitudes in the program areas could well be a result of the rapidly increasing outreach of media and the internet<sup>29</sup>, bringing contemporary thought into the homes and communities, there is, nevertheless, a greater positive underlying shift to be observed in intervention areas, which can be attributed to the program impact. The greater magnitude of drop in the ‘strongly agree’ responses to negative gendered statements in the program areas is evidence of this. The change is also reflected in the growing self-confidence girls and their improved self-perception that they can do and achieve whatever they wish to, as can be seen from the qualitative findings of the study.

Further, the most positive impact of the program in the context of gender perceptions is in the attitudes towards the age-old social evil of dowry. A larger proportion of respondents in the intervention group denounced dowry, than in the control group. This is a very promising sign that interventions by programs such as DISHA could, slowly but surely, uproot such evils from society.

<sup>29</sup> <https://nealschaffer.com/social-media-catalyst-social-change/#:~:text=Social%20media%20has%20been%20a%20tool%20in%20raising%20voice%2C%20awareness,a%20voice%20in%20different%20situations.>

**A class 10<sup>th</sup> female student from Wardha, Maharashtra**

*“The Magic Bus people showed us how to talk to people with confidence, how to solve our problems and achieve our goals. They have taught us that there is no difference between boys and girls. Now boys and girls play together and we are not afraid to talk to anyone. We can handle things if someone misbehaves with us.”*

**A class 10<sup>th</sup> male student from Koluta, Rajasthan**

*“Magic Bus Bhaiya taught us, boys and girls should play together, not discriminate among themselves. We have to study to move forward. The villagers should also educate girls equally, Beti bachao Beti padhao scheme should be followed.”*

**A mother, Nalgandhi, Rajasthan**

*“A girl should study, if she studies then her future will improve, if the girl remains illiterate then who will marry her, who will value her, if she studies then her value will increase, she will get a job in the future, and she will make a name for herself in the world.*

*There should be no discrimination between son and daughter, both should study, if she is educated, after the marriage, if a letter comes, she was able to read, otherwise how will she read? She was able to keep her family well. After studying a girl will make her name famous anywhere and also in her in-law's house.*

*Even if we get a good match for her, will continue studies, will not get them married. If a girl child wants to study, then she can marry even later.”*

*Learning*

Age-old toxic perceptions about the traditional gender roles have long been a deterrent to the progress of women, and have by extension, blocked healthy and holistic progress of marginalised communities. The impact of the Magic Bus intervention in this regard shows that these gender perceptions can slowly but surely be replaced by healthier thinking patterns which enable equal progress for males and females and more harmonious communities.

### 3.8. Financial Literacy

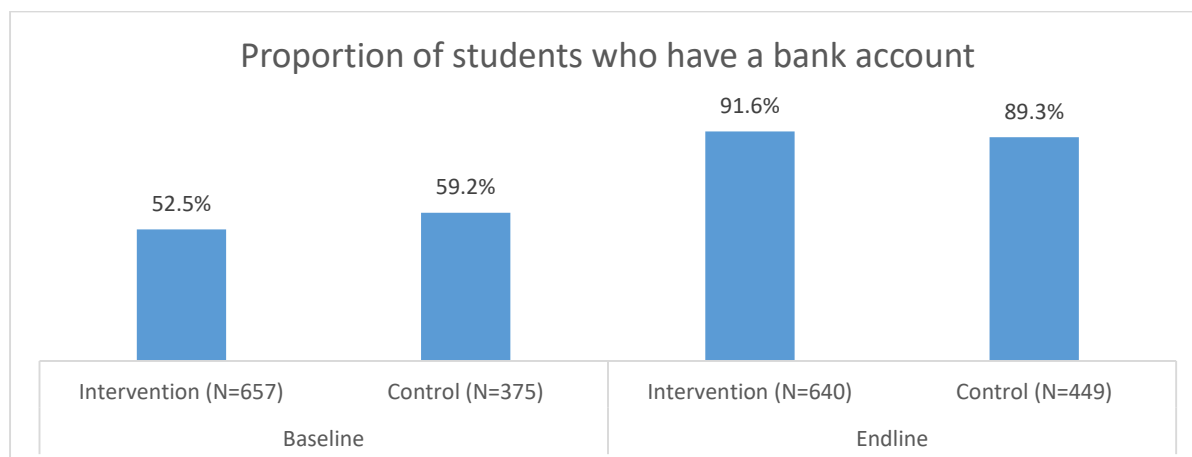
Financial literacy amongst adolescents is essential as it empowers them to make informed choices and equips the individuals to take quality financial decisions in order to enhance their present and long-term financial well-being.<sup>30 31</sup> Thus, considering that financial literacy should begin at school itself, financial literacy was one of the components of the program.

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<sup>30</sup> Kezar, A., & Yang, H. (2010). *The Importance of Financial Literacy. About Campus*, 14(6), 15–21.

<sup>31</sup> Garg, N. and Singh, S. (2018), "Financial literacy among youth", *International Journal of Social Economics*, Vol. 45 No. 1, pp. 173-186

The success of this particular aspect of the program is evident in Figure 6 which shows that post the completion of the program, about 9 out of 10 students had a bank account as opposed to only 5 out of 10 right before the implementation of the programme.



**Figure 6: Proportion of students who have a bank account**

Even in terms of awareness about various financial products, a huge improvement can be observed (Table 22). As opposed to merely 9.7% students at the time of the baseline, 71.1% of the students now knew about a debit card. Awareness regarding credit cards and insurance in the intervention group also increased by more than three times from 13.7% to 43% and 17.4% to 74.1% respectively. This proportion is far greater than the students who are aware about such financial product in the comparison group. Almost all the students in the intervention arm knew about an ATM (99.1%). However, it is to be noted that in apart from the program, this could also be attributed to an increase in the students' age and greater exposure to social media.

**Table 22: Awareness of students regarding various financial products**

	Baseline		Endline		Difference	
	Intervention (N = 657)	Control (N = 375)	Intervention (N = 640)	Control (N = 449)	Intervention	Control
<b>Debit Card</b>	9.7	8.5	71.1	33.0	61.4	24.4
<b>Credit Card</b>	13.7	4.3	43.0	19.8	29.3	15.6
<b>Insurance</b>	17.4	10.7	74.1	65.0	56.7	54.4
<b>Saving accounts</b>	50.4	42.4	90.3	79.1	39.9	36.7
<b>ATM</b>	66.8	69.1	99.1	97.6	32.2	28.5

\* Above figures are based on 'Yes' response

### 3.9. Learning level assessment

The scholastic component of the FDP was aimed at introducing better pedagogies and assessment techniques to improve student-teacher engagement and create a more fruitful learning environment, both through capacity building for teachers and through direct interaction with the students and transmitting knowledge, insights and skills through sports and group activities.

Around 93% students said they understood their lessons better after the program implementation and 89% also recorded higher marks in their exams. Another 92% of the respondents responded that they were motivated by the program to study well and go in for higher studies in order to ultimately pursue a career.

**A teacher, Kodaroti, MP**

*“Those people used to teach children by making maths diagrams, making things out of paper, and the children used to be enthusiastic. Sir had also made an aeroplane and a stethoscope for them. when he used to make such things, the children's interest in studies would increase.*

*Children were made to do activities by forming a circle, children used to do activities by forming groups and sitting in the circle, children were taught interesting things, children used to learn by forming groups.*

*The Magic Bus children are ahead in everything, went ahead and took part in all the program of the school, because they had seen everything, used to be disciplined, used to play in the group, the present children neither played nor saw anything. So, they don't know anything.”*

In order to assess the impact of the FDP on scholastic outcomes, the ASER tool for Hindi, Marathi and Maths was administered to the selected samples of students from both intervention and control areas after completion of the program.

**3.9.1. Reading assessment**

The ASER Reading tool for Marathi was administered to both intervention and control children in Maharashtra to evaluate the FDP’s impact on reading outcomes. As can be seen in the table 23 below, the nearly 88% of the intervention group students recorded ‘paragraphs’ as their highest reading level, as against 81% for control group students. Similar results for reading outcomes (in Hindi) were recorded in MP and Rajasthan, where 84% and 85% intervention students could read up to paragraph level, as against 77% and 72% respectively in the case of control group students.

**Table 23: Hindi/ Marathi ASER score comparison state-wise and between treatment and control groups**

	Maharashtra		Madhya Pradesh		Rajasthan	
	Intervention (N = 138)	Control (N = 124)	Intervention (N = 279)	Control (N = 194)	Intervention (N = 223)	Control (N = 131)
<b>Paragraphs</b>	87.70	80.60	83.50	77.30	85.20	71.00
<b>Sentences</b>	9.40	11.30	8.20	13.40	9.00	15.30
<b>Words</b>	0.70	4.80	5.40	6.20	3.10	6.10
<b>Alphabets</b>	2.20	3.20	2.90	3.10	2.70	7.60

Thus, the outcomes of the ASER reading tools clearly indicate that the FDP’s activities and capacity building endeavours had a somewhat positive impact on the reading abilities of the intervention group children, as they were found to be more advanced in reading than the control group students.

### 3.9.2. Numeracy (ASER tool)

Numeracy outcomes, as assessed by the ASER Math tool, across the three program states shows higher numeracy outcomes for intervention group respondents, a higher proportion of whom had progressed up to division of numbers than was the case for control group respondents. This broad outcome held true for all three states (Table 24).

However, comparing across states, Rajasthan had the lowest difference between the numeracy outcomes for the two groups (81% and 78% respectively). While this might be indicative of a low impact of FDP in the state, the high percentages seem to point towards a generally high academic standard prevalent in the state.

While the intervention group children in MP recorded 13% higher numeracy levels than the control group respondents, those in Maharashtra recorded the highest differential of 21%, even though the increased level was also quite modest, at less than 60%. This could indicate a generally low numeracy standard in the children of Maharashtra.

**Table 24: Math: ASER score across states and study groups**

	Rajasthan		Madhya Pradesh		Maharashtra	
	Intervention (N = 223)	Control (N = 131)	Intervention (N = 279)	Control (N = 194)	Intervention (N = 138)	Control (N = 124)
<b>Divide</b>	81.20	77.90	76.00	63.40	59.40	38.70
<b>Subtract</b>	5.80	11.50	6.50	16.50	13.00	21.00
<b>Identify double digit numbers</b>	5.80	5.30	11.50	12.40	13.80	36.30
<b>Identify single digit numbers</b>	7.20	5.30	6.10	7.70	13.80	4.00

On a consolidated basis too, 13% more children from the intervention areas were proficient up to division of numbers than those from the control areas. The impact of the Magic Bus program on numeracy outcomes of the beneficiaries is, thus evident.

**Table 25: Math abilities, comparison across treatment and control groups**

	Intervention (N = 640)	Control (N = 449)
<b>Divide (greatest level)</b>	74.20	60.80
<b>Subtract (2<sup>nd</sup> highest level)</b>	7.70	16.30
<b>Identify double digit numbers</b>	10.00	16.90
<b>Identify single digit numbers (minimum level)</b>	8.10	6.00

### 3.9.3. Science

Since the primary focus of the FDP's scholastic component was to encourage Math and Science education, a concerted effort was made, through special labs and science kits which were supplied to students, to awaken their interest in the STEM subjects.

Around 77% of the respondents said that their comprehension of Science has improved as a result of exposure to the Magic Bus program's activities. Findings of the qualitative surveys had shown deep appreciation from the community as well as the students for the Magic Bus instructors who taught Science through games and practical demonstrations and gave extra time to resolve the students' doubts. However, over the last few years, India has experienced a large-scale proliferation of science communication activities through various programs initiated by the central government, state government, and NGOs. This is probably why nearly 75% control schools also had science labs.<sup>32</sup>

**Table 26: Comparison of responses for, "Does your school have a science lab?"**

	End-line	
	Intervention (N = 640)	Control (N = 449)
<b>Yes</b>	75.8	74.4
<b>No</b>	24.2	25.6

**Table 27: Comparison of responses for, "Were you able to do simple experiments in the science lab?"**

	End-line	
	Intervention (N = 640)	Control (N = 449)
<b>Yes</b>	51.6	25.8
<b>No</b>	35.8	60.8
<b>Sometimes</b>	11.6	8.5
<b>Teachers don't let us do experiments</b>	1.1	4.9

Around 75% of the respondents in both intervention and control groups said that their schools had a Science lab. However, only 26% students in the control group, as against nearly double that proportion (52%) of intervention group students, said that they could do simple experiments in the school lab. This clearly demonstrates the enormous improvement in Science related scholastic outcomes of the intervention group children, probably due to the enjoyment and interest generated by the Science kits provided by the program.

An impressive 84% of the students said that the Magic Bus program experience had motivated them to study Science as part of their higher studies.

#### *Learning*

The Magic Bus program had a marked impact on the scholastic outcomes of its beneficiaries, in both reading and numeracy, and it is especially true in the context of Science education and motivation to study Science further. This was also one of the Magic Bus program's objectives. The innovative

<sup>32</sup>[https://www.researchgate.net/publication/363022879\\_Science\\_Communication\\_in\\_India\\_Current\\_Trends\\_and\\_Future\\_Vision](https://www.researchgate.net/publication/363022879_Science_Communication_in_India_Current_Trends_and_Future_Vision)



pedagogies, teacher mentoring and materials provided by the program has made for improved learning outcomes for the beneficiaries of the program.

### 3.10. Difference-in Difference Estimator to assess Attributable Outcomes

Difference-in-differences (DID), also known as the ‘double difference’ method, compares the changes in outcome over time between treatment and comparison groups to estimate the impact that can be attributed to the intervention. DID gives a stronger impact estimate than a simple ‘single difference’, which only compares the difference in outcomes between treatment and comparison groups following the intervention. Applying the DID method removes the difference in the outcome between treatment and comparison groups at the baseline. The current chapter thus attempts to compute the difference-in-differences (DID) estimator to evaluate the effects of interventions and other treatments of interest on outcome variables like self-perceived efficacy, resilience and problem-solving skills of target group, i.e. adolescents studying from class 6th to 8th.

In order to assess the difference in difference, we have created a dummy variable of treatment and post (i.e. time period before or after the intervention) to conceptualize a regression equation as described below:

$$y_i = \beta_0 + \beta_1 \text{treatment}_i + \beta_2 \text{post}_i + \beta_3 \text{treatment}_i * \text{post}_i + e_i$$

Wherein post is a dummy variable, which =1 for end-line, and =0 for before;

Treatment is a dummy variable, which =1 if individual is in treatment and =0 if the individual is not.

Based on the above regression equation the difference in difference can be computed as  $\beta_3$  as described below:

**Table 28: Variables for calculating DID**

<b>Before (Baseline)</b>	$\beta_0 + \beta_1$	$\beta_0$	<b><math>\beta_1</math></b>
<b>After (End-line)</b>	$\beta_0 + \beta_1 + \beta_2 + \beta_3$	$\beta_0 + \beta_2$	<b><math>\beta_1 + \beta_3</math></b>
<b>Difference</b>	<b><math>\beta_2 + \beta_3</math></b>	<b><math>\beta_2</math></b>	<b><math>\beta_3</math></b>

Where:

- $\beta_3$  is the DD estimator. It is the differential effect of treatment.
- $\beta_2$  represents the time trend in the comparison group,
- $\beta_1$  represents the differences between the two at the Baseline

**Results:**

The below section unpacks the effect of the program intervention on the target group vis-à-vis the comparison group, i.e., adolescents who were part of the intervention v/s adolescents who weren't.

### 3.10.1. Change in Self-perceived efficacy

One of the key cornerstones of the intervention was to inculcate and foster an improved sense of self-perceived efficacy among the target beneficiaries. To capture this outcome, a series of calibrated statements were asked on a Likert scale that attempted to estimate the perceived ability (or lack thereof) of the respondent's behaviour in resolving a challenging situation. A composite index was further calculated based on the responses to this series of statements, which more accurately measured every single respondent's self-perceived efficacy on a dichotomous scale, i.e., present or not present. The table below shows the results obtained from the survey.

**Table 29: DID outcome for Self-perceived efficacy**

2.2 Outcome Variable = Self perceived efficacy				
Study Arm	Baseline	End-line	Difference	Double Difference (DID)
<b>Intervention</b>	84.2%	95.3%	11.1%	1.3%
<b>Comparison</b>	78.4%	88.2%	9.8%	

Again, the study attempted to ascertain if the change seen above, i.e., 1.3% improvement in the intervention group over and above the improvement seen in the comparison group, was significant and thus attributable to the intervention. The regression model below provides more insight on that front.

**Table 30: DID outcome for various terms and interaction terms in case of Self Efficacy Calculation**

Values	Labels	2.2 Outcome Variable = Self perceived efficacy					
		Coef./ Difference in Values	Std. Err.	t statistic	P	95% C. I.	
<b><math>\beta_1</math></b>	Differences between the two at the Baseline	0.06	0.02	2.73	0.01	0.02	0.1
<b><math>\beta_2</math></b>	Time trend in the control group	0.10	0.02	4.28	0.00	0.05	0.1
<b><math>\beta_3</math></b>	Differential effect of treatment/ attribution	0.01	0.03	0.46	0.65	-0.04	0.1
<b>Constant/ Intercept</b>			0.78	0.02	46.43	0.00	0.75

The difference in difference estimates, as given in the above table, shows that the intervention has led to a net positive (1 pp) improvement in self-efficacy. However, this change was not found to be statistically significant at 95% confidence level, i.e. p-value >0.05. Hence while it may be claimed that the program has led to better improvement in self-efficacy as compared to business-as-usual (i.e., improvement seen in the comparison group), this improvement could be a result of random chance and thus cannot be attributed to the intervention.

### 3.10.2. Change in Resilience

Similar to self-perceived efficacy, respondents were also measured on individual resilience, i.e., ability and agency to cope with adverse situation/s. Again, calibrated statements were asked on a Likert scale

index, and a composite index was constructed on a dichotomous scale, which showed whether a respondent had the proper attributes to be classified as resilient. The table below shows the results obtained from the surveys.

**Table 31: DID outcome for Resilience**

2.3 Outcome Variable = Resilience				
Study Arm	Baseline	End-line	Difference	Double Difference (DID)
<b>Intervention</b>	85.0%	96.2%	11.2%	4.2%
<b>Comparison</b>	91.7%	98.7%	7.0%	

The above figure shows that the improvement in resilience levels was witnessed in both intervention and comparison groups; however, the improvement was more pronounced in the former (11.2%) than in the latter (7%). As a result, the DID figure shows a net positive change of around 4 percentage points, i.e., it can be stated that the intervention led to an effectual increase in resilience levels by 4 percentage points over business-as-usual. However, whether this change can be attributed to the intervention or is a factor of random chance can only be assessed after examining the results of the regression model, as given in the table below:

**Table 32: various terms values for DID for resilience**

Values	Labels	2.3 Outcome Variable = Resilience					
		Coef./ Difference in Values	Std. Err.	t statistic	P	95% C. I.	
<b>β1</b>	Differences between the two at the Baseline	-0.07	0.02	-3.98	0.00	-0.10	0.0
<b>β2</b>	Time trend in the control group	0.07	0.02	3.84	0.00	0.03	0.1
<b>β3</b>	Differential effect of treatment/ attribution	0.04	0.02	1.84	0.07	0.00	0.1
<b>Constant/ Intercept</b>		0.92	0.01	68.87	0.00	0.89	0.9

The difference in difference estimates, as given in the above table, shows that the intervention has led to a net positive (4 pp) improvement in resilience. However, this change was not found to be statistically significant at 95% confidence level as shown by the high p-value of greater than 0.05 (p=0.07). Hence, while the survey results prove that the intervention has improved resilience levels by 4 pp, this improvement cannot be successfully attributed to the intervention and could result from random chance.

### 3.10.3. Change in Problem Solving

Problem-Solving ability is a crucial attribute that the intervention aimed to instill in the target beneficiaries. Apropos of the initiative, the evaluation attempted to understand the baseline and end-line estimates for problem-solving skills of the intervention and comparison target groups. A dichotomous and composite index constructed on responses received on various statements measured the presence of a lack thereof problem-solving skills in both the comparison and treatment groups. The below table shows the results of the survey.

**Table 33: DID outcome for Problem-solving**

2.4 Outcome Variable = Problem solving				
Study Arm	Baseline	End-line	Difference	Double Difference (DID)
Intervention	85.2%	96.6%	11.4%	12.9%
Comparison	75.7%	74.2%	-1.5%	

The above figure shows that the improvement in problem-solving skills was witnessed in only the intervention group (11.4%); in fact, the group without the intervention, i.e., the comparison group, saw a decline of about 1.5%. Because of this opposite trajectory in change witnessed across the two study groups, the DID was found to be higher than the change seen only in the intervention group, i.e., 12.9% v/s 11.4%.

**Table 34: Variables values (outcome) in DID for problem-solving**

Values	Labels	2.4 Outcome Variable = Problem solving					
		Coef./ Difference in Values	Std. Err.	t statistic	P	95% C. I.	
$\beta_1$	Differences between the two at the Baseline	0.10	0.02	4.20	0.00	0.05	0.1
$\beta_2$	Time trend in the control group	-0.02	0.02	-0.64	0.52	-0.06	0.0
$\beta_3$	Differential effect of treatment/ attribution	0.13	0.03	4.13	0.00	0.07	0.2
<b>Constant/ Intercept</b>		0.76	0.02	41.94	0.00	0.72	0.8

The difference in difference estimates, as shown in the above table, shows that the intervention has led to a net positive (13 pp) improvement in problem-solving skills. Moreover, this change was found to be statistically significant at 95% confidence level (p-value <0.05). This proves that the program was able to make substantial positive changes in the behaviour of the intervention group w.r.t. their problem-solving skills.

### 3.11. Efficacy, Effectiveness and Sustainability

The Magic Bus DISHA program implemented in selected districts of Maharashtra, MP and Rajasthan has had a marked positive qualitative impact on the beneficiaries, i.e., the secondary school children of the target areas. The program's performance on the key criteria of Efficacy, Effectiveness and Sustainability of Impact can be evaluated as follows:

#### Efficacy

As per the findings of the end-line impact study, the program was a success in terms of accomplishing most of its core objectives, which were:

- Ensuring retention and progression of adolescents studying in government schools.
- Improving their learning abilities and levels in numeracy, reading and science.
- Improving perceived self-efficacy and resilience of adolescents through life skills education.

- Building their work readiness skills (financial literacy, life skills and career counselling).
- Improvement of school governance system through capacity building of SMCs.
- Creating an enabling environment through structured community connect activities

Out of these, the last two, i.e., capacity building of SMCs to improve school governance system and initiating structured community connect activities, could not be implemented to the desired extent, primarily because of the pandemic and its attendant restrictions, which curtailed the program activities midway. On the financial literacy aspect too, despite improved knowledge of financial instruments, the students were, by and large, uninformed about the process of availing student loans for further studies.

However, there was a marked improvement in the other objective outcomes. For instance, there was a definitive fall in drop-out rate (based on qualitative findings), ensuring better student retention. The learning outcomes of the students under the program's improved pedagogies, tools and teacher mentoring have shown a definite improvement. Students have been imparted financial literacy and encouraged to handle financial tools such as bank accounts, ATM cards and insurance to make them ready for the future. Findings in the area of life skills education too are quite satisfactory.

### Efficiency

The efficiency of the key components of the program can be evaluated as follows:

#### **Life skills Education:**

The program's Life Skills Education module was aimed at developing self-efficacy, resilience and aspiration among the adolescents studying in grade 6<sup>th</sup> to 8<sup>th</sup>. Age appropriate inputs were provided using experiential approaches including the use of an activity-based curriculum, mentoring and a sport for development methodology resulting in getting the adolescent interested in the process of learning leading to better class participation, attendance and retention. Findings of the study show that the implementation of Life Skills education was very successful. The students and community stakeholders alike were very appreciative of the outcomes in this regard.

#### **Learning enhancement:**

The Learning Enhancement program was aimed at raising the students' learning levels in reading and numeracy. The focus of the program was on increasing the effectiveness of teaching through well-designed and need-aligned learning and mentoring on pedagogy skills, subject enrichment techniques, classroom management, assessment tools and methods, and more. In this aspect too, there has been a marked improvement in the scholastic outcomes of the program beneficiaries.

#### **Science Education:**

In this module experiential learning was introduced through an innovative science Lab and student engagement was built through "Do it yourself" student activity kits that encourage students to explore, discover and inquire by spending time in the science lab. The effectiveness of this program component was especially praiseworthy, as it enabled the students to get involved in hands-on Science. This has motivated them to aim for Science based careers after studying it in their higher education.

**Community Connect:**

Community Connect Tool Kit was a comprehensive guide for the Field Facilitators for mobilizing community stakeholders to contribute proactively for improving access and quality of education. The outcomes of this effort has been an appreciable enhancement in community connect and social cohesion in the beneficiary communities, creating an enabling learning environment for the students.

**Sustainability of Impact**

Qualitative findings of the impact evaluation study are not very encouraging on the aspect of lasting impact of the program. Both teachers and parents were found to complain that after the end of the program, the students of subsequent batches are not able to reap the benefits of the program. They feel that a longer, more sustained engagement with higher frequency is required to truly build the capacity to sustain the program's impact on the community.

Additionally, while CCs have played a pivotal role in ensuring greater impact of the program, they aren't a sustainable component of the program. During the program, these CCs were given some honorarium which might be the primary incentive for them to work towards the study goal. Once the program ceased, that was not the case.

In order to ensure continued impact of the program, it is essential that government teachers carry forward the baton by delivering the life skills sessions at their end as well. Since no such sessions were conducted since the program operations ended, next batch of students aren't trained on these aspects.

## Chapter 4: Conclusions and Recommendations

### Findings and Takeaways

In this chapter we enumerate the Findings and Takeaways of the impact assessment study of the HDFC Focus Development Program for Scholastic and Non-Scholastic (life skills) interventions in selected districts of Maharashtra, MP and Rajasthan. However, it is important to read these takeaways against a backdrop of COVID-induced disruption. This not only curtailed the program's activities midway through the program, but also dampened the quantitative responses of the beneficiary students. In fact, in view of these factors, the impact of the program has been quite commendable.

### Impact of COVID

- There was a concerted effort from the Magic Bus mentors to raise community awareness about the importance of completing the children's education through social interaction.
- However, the onset of the COVID pandemic, midway through the FDP, had a majorly disruptive effect, not only on the program, but also on the general studies and lives of the people. Schools had to be closed and regular classes discontinued. Obviously, in these conditions, the program personnel too had to curtail their interactions with the students, which may have led to dampening the efficacy of the overall program.
- Even though efforts were made to minimize the disruptive impact of COVID on the children's studies, it was not possible for a major proportion of the students to study uninterruptedly due to a number of reasons.
- The major barriers to attending online classes during COVID were technology related – lack of any kind of access to a mobile phone, limited access to mobile phones, since the phones belonged to their parents who had to go out to work, network issues and difficulty in understanding the technology/ audio issues. There were also issues, to a minor extent, in understanding the lessons and inability to clear doubts and inability to attend due to household and employment related responsibilities

### Motivation to attend school and class participation

- The primary reasons for drop-out were distance, lack of awareness about the importance of studies, and opposition from parents. The Magic Bus program virtually came to a standstill during COVID, and since the SMCs too were not meeting in this duration, efforts to follow up on drop outs were lacking from both these fronts.
- Meeting friends and playing in school continues to be a priority for children across the board. This is a strong reason that the dissemination improved learning and attitudinal outcomes via sports-related activities has been successful to a great extent. Thus, even the number of children who didn't want to attend school because they were more interested in sports than in studies have dropped in intervention areas.
- One of the most positive impacts of the FDP is a higher proportion of respondents in the intervention groups attending school because they like their teachers. As per the findings of FGDs with teachers, the mentoring that the teachers received under the FDP had a significant role in fostering improved student-teacher engagement.

- In all three states, there was a significant increase in the percentage of girl students attending school during their menstrual cycle.
- There is a definite upswing in students' participation in class, their willingness to give their best efforts and their enjoyment of group activities, which was one of the program's core focus areas for improving pedagogies and student-teacher engagement.

### Gender perceptions and attitudes

- Due to the efforts of the Magic Bus program personnel, there was a positive shift in gender segregation during play, as well as a definite normative shift in thinking about sports from a gender perspective.
- An appreciable positive shift in attitudes about traditional gender roles was to be observed as a result of awareness raising by the Magic Bus program.
- After the implementation of the FDP, the proportion of respondents who felt that both boys and girls should help equally with household chores increased
- There was a similar positive shift in attitudes with regard to the traditionally subservient role of the wife in the family and the husband's assumed right to dominate the decision making space in the family, which can be attributed to the efforts of the FDP. This shows that the seeds of social change have been sowed which, if nurtured, will reap fruits of gender equity in the course of time. It needs to be remembered that shifts in entrenched attitudes are a generational legacy which take a long time to evolve, and a definitive first step in this direction has been taken.
- A vital social question pertaining to gender attitudes that was probed by the study was whether parents should give dowry for their girls' marriage. Although the shift in thinking was not very large, it was, nevertheless significant enough to be a hopeful sign for the future.

### Life skills and resilience

- There was a positive impact in the program area on the students' ability to solve problems as a result of the activities and mentoring in school, rendering the students better equipped to handle unexpected difficulties and find ways out of problems.
- The relatively higher increase in the proportion of respondents who looked out for possible negative consequences of their decisions indicates a much more mature mindset.
- The program beneficiaries were shown the importance of being even-tempered and well-behaved, and showed better control over their temper. Concomitantly, the proportion of respondents who could face adverse situations without having a meltdown or turning violent increased.
- The program beneficiaries were able to deal better with pressure from friends and were more aware about the ill-effects and dangers of substance abuse.
- The beneficiaries of the program exhibited an increase in community connect and an increased sense of participation in community events, along with better appreciation of the importance of life skills and community values.

### Scholastic outcomes

- Students understood their lessons better after the program implementation and recorded higher marks in their exams, as well as being motivated by the program to study well and go in for higher studies in order to ultimately pursue a career.



- The outcomes of the ASER reading tools clearly indicate that the FDP's activities and capacity building endeavours had a somewhat positive impact on the reading abilities of the intervention group children as compared to the control group students.
- The study recorded better numeracy outcomes for intervention group respondents, a higher proportion of whom had progressed up to division of numbers than was the case for control group respondents. This broad outcome held true for all three states.
- Comprehension of Science has improved as a result of exposure to the Magic Bus program's activities. Findings of the qualitative surveys had shown deep appreciation from the community as well as the students for the Magic Bus instructors who taught Science through games and practical demonstrations and gave extra time to resolve the students' doubts.

## Recommendations

- In order to ensure sustainability of the program, it is essential not to have an individual-centric pillar rather build sustainable institutions. Thus, in addition to the concept of CCs, strengthening of village-level institutions like Village Child Protection Committees can be done to ensure continued high enrolment of students and no incidence of dropping out of school.
- Since the program was interrupted by COVID pandemic, the desired outcomes pertaining to capacity building of SMCs and improving school infrastructure could not be implemented effectively. In case the program is resumes, these lacunae need to be addressed.
- Due to discontinuation of the program, which basic financial literacy was imparted to the beneficiary students, it could not be followed up with information pertaining to student loans and the process of availing them. This aspect needs to be taken care of, to truly empower the program beneficiaries to go in for higher studies.
- Qualitative findings of the impact evaluation study are not very encouraging on the aspect of lasting impact of the program. Both teachers and parents were found to complain that after the end of the program, the students of subsequent batches are not able to reap the benefits of the program. They feel that a longer, more sustained engagement with higher frequency is required to truly build the capacity to sustain the program's impact on the community.
- Greater liaison with government can be explored to train teachers in delivering life skills sessions

## Annexure

### Grade-wise distribution of students

**Table 35: Grade-wise distribution of students**

	Baseline								End-line							
	Maharashtra		Madhya Pradesh		Rajasthan		Total		Maharashtra		Madhya Pradesh		Rajasthan		Total	
	Intervention (N = 211)	Control (N = 120)	Intervention (N = 270)	Control (N = 181)	Intervention (N = 176)	Control (N = 74)	Intervention (N = 657)	Control (N = 375)	Intervention (N = 138)	Control (N = 124)	Intervention (N = 279)	Control (N = 194)	Intervention (N = 223)	Control (N = 131)	Intervention (N = 640)	Control (N = 449)
<b>8th</b>	77.3	80.0	74.1	50.3	56.8	52.7	70.5	60.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>9th</b>	22.7	20.0	25.9	49.7	43.2	47.3	29.5	39.7	0.7	50.8	10.8	17.5	2.2	0.0	5.6	21.6
<b>10th</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.6	46.8	66.3	79.9	44.4	35.1	65.6	57.7
<b>11th</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	11.1	1.5	48.4	48.1	21.9	14.9
<b>None (dropped out)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	1.0	4.5	0.0	6.1	0.4
<b>12th</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.4	0.0	0.4	16.8	0.8	5.3

## Statements used to assess Life-skills of students

Statements used to calculate composite score in order to assess various life-skills amongst students have been listed below:

- **Problem-solving**
  - I easily identify my problems
  - I look for information to help me understand the problem
  - I think about ways of dealing with my problem
  - I discuss choices with my friends before making a decision
  - I discuss choices with my parents before making a decision
  - I look for positive points of possible choices
  - I look for negative points of possible choices
  - Before making any other decision I think about how the last one turned out
  - I have become more aware about identifying my problems and solving them
  
- **Self-Management and Decision-Making**
  - I can identify the positive and negative consequences of behaviour
  - I try to make sure that everybody in a group is treated equal
  - I think you should work to get something if you really want it
  - I make decisions to help me achieve my goals
  - In the last few years my experiences in school have helped in improving my decision making
  - I know how to organize my time in order to get all my responsibilities and school work done
  - My school activities have helped me to improve my organization and time management skills
  - I get mad / angry easily
  - When I am mad, I yell at people
  - Sometimes I break/ throw/ drop things on purpose
  - When I'm really angry, I hit people
  - I have better control over my temper than I did a few years ago
  - I am easily influenced by my friends and peer group
  - I know how to deal when my friends are pressurising for something
  - I deal better with pressure from my friends now than I did a few years ago
  - I know the ill effects of substance consumption
  - For me both girls and boys have equal potential to achieve something in life
  - My thoughts on gender equality have changed in the last few years
  
- **Self-perceived efficacy**
  - I can always manage to solve difficult problems if I try hard enough
  - If someone opposes me, I can find means and ways to get what I want
  - My ability to solve problems has improved as a result of activities and mentoring in school
  - It is easy for me to stick to my aims and accomplish my goals
  - I am confident that I could deal efficiently with unexpected events
  - Thanks to my resourcefulness, I know how to handle unforeseen situations
  - I can solve most problems if I invest the necessary effort

- I can remain calm when facing difficulties, because I can rely on my coping abilities
- When I am confronted with a problem I can usually find several solutions
- If I am in trouble, I can usually think of something to do
- No matter what comes my way, I am usually able to handle it
- I am better equipped to handle unexpected difficulties and find ways out of problems now

▪ **Resilience**

- I have role models - people I want to be like
- Getting an education is important to me
- I feel that my parents/care givers know a lot about me
- My outlook towards education and towards my parent's support has become more positive
- I try to finish activities that I start
- When things don't go my way, I can fix it without hurting myself or other people (for example hitting others or saying nasty things)
- I know where to go to get help
- My ability to tackle tasks and problems successfully has been enhanced by my experiences in school in the past few years
- I feel that I belong at my school
- I think my family cares about me when times are hard (for example if I am sick or have done something wrong)
- I think my friends care about me when times are hard (for example if I am sick or have done something wrong)
- I am treated fairly
- My sense of community participation and support has been positively impacted by school activities
- I have chances to learn things that will be useful when I am older (like cooking, working and helping others)
- I like the way my community celebrates things (like holidays, festivals)
- I now have a better appreciation of the importance of life skills and community values

▪ **Gender Perception and Attitude**

- A father's job is to earn money for the family, and a mother's job is to look after family
- A wife needs permission from her husband if she wants to go to the market
- A wife needs permission from her husband to work outside the home and earn money
- A wife does not have a say in decisions about the family
- The husband and male children should not help in the household chores
- Having a male headmaster/ principal at school better than a female
- Teachers should encourage boys to take more classes in science and mathematics as compared to girls
- Religious leaders should always be men
- Community leaders should always be men
- Parents should give dowry for their girl's marriage