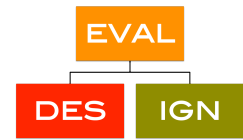
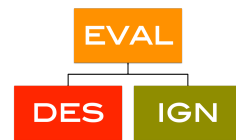


# Evaluation of the Design for Change Program in Tamil Nadu

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## About Design for Change

Design for Change (DFC) was launched in India in the year 2009. Since its inception, DFC has worked towards building the 'I CAN' spirit in children. Using the Feel-Imagine-Do-Share model, the DFC program teaches students skills such as communication, creativity, collaboration and critical thinking. It helps children inculcate 21<sup>st</sup> century skills and improve their employability skills.

## About Evaldesign

Evaldesign is a Research Consulting Firm set up in 2013 with a focus on designing Educational programs to improve student outcomes. Evaldesign provides inputs that lend programs an intrinsic ability to capture high quality data for rapid feedback, effective implementation and impact evaluation. Evaldesign's mission is to help donors, investors, governments and non-profits in the social sector innovate and implement programs by providing high quality, cost-effective consulting on project roll-outs, scale-ups and impact assessments.

## EdelGive Foundation

EdelGive Foundation is the philanthropic arm of the Edelweiss Group; established in 2008. The foundation works on two major principles, that of being a bridge between the users and providers of philanthropic capital and knowledge by bringing the skills, resources and talents of the for-profit world to the not-for-profit arena. This is complemented by well-planned employee engagement initiatives that are ingrained in the ethos of Edelweiss. Since its inception, the resources mobilised by EdelGive have positively impacted more than 60 NGOs working in the areas of education, livelihoods and women's empowerment and this has directly influenced lives of more than two lakh individuals. In addition to the collective commitment of over Rs. 30 crores in seven years, 10,000 hours of pro bono support extended by Edelweiss employees have enabled NGOs to scale up their activities.

As part of its principle of collaborative philanthropy, EdelGive Foundation has also extended its zero cost platform to function as an advisor and aggregator to the donor community, thus ensuring funding from foundations and corporate reaches high impact NGOs.

This evaluation has been made possible by the generous support of the EdelGive Foundation



## Table of Contents

1. Executive Summary	3
Feel-Imagine-Do-Share is a transferrable model	3
Participants demonstrate higher creative skills	4
Students learn 21 <sup>st</sup> century skills and attitudes	4
Teacher involvement improves	4
Parental perceptions become positive	4
Community behaviour changes	4
Significant sustainable positive change follows	4
2. Introduction	5
3. Research Questions	6
4. Case Studies	7
An End to Suicide	9
Prevention of Child Abuse	13
A Fight Against Alcoholism	17
Reducing Accidents Outside School	21
A Village Free from Wastage	25
Uplifting The Life of Beggars	29
The Gift of Vision	33
Eco Friendly Boundaries	37
Eradicating Adult Illiteracy	41
Prevention of Open Defecation	45
5. Transferability of the DFC Model and Impact on 21 <sup>st</sup> Century Skills	49
Transferability of the FIDS Model	49
Feel	49
Imagine	50
Do	50
Share	51
Perceived Changes in Self and Community	51
Creativity	53
6. Logical Framework	55
7. Conclusions and Policy Implications	55
8. Research Methodology	57
Sampling Strategy	57
Data Collection	60
Analysis	64
9. Limitations of Study	65
10. Annexure 1	66
11. References	67

# 1. Executive Summary

**Design for Change (DFC)** is a global movement that introduces experiential learning to students in schools, and operates under a **framework called Feel-Imagine-Do-Share (FIDS)** that has been developed by the Riverside School in Ahmedabad, India. Under this framework, children are encouraged to **Feel** a problem that bothers them, **Imagine** a way to make it better, **Do** something to make a change and **Share** their story of change with the world. Through this experiential learning approach, the DFC model aims to introduce 21<sup>st</sup> century skills to students, foster a collaborative learning environment that is interactive and engaging<sup>1,2</sup>, and improve critical thinking and problem-solving skills<sup>3</sup> for the participants.

DFC holds the DFC School Challenge every year, and as part of the challenge, school students are encouraged to spend a minimum of one week working on a project to bring about positive change in their communities. The DFC School Challenge received 700 project entries from India and 1500 entries globally in its initial years. In 2014, these numbers have increased to 1992 and 7539 respectively. DFC is currently operational in over 30 countries across the globe.

An in-depth case study analysis conducted by Evaldesign using the maximum variation sampling strategy measured the impact of the DFC program on students, teachers and parents. The evaluation has clearly shown that the DFC program has a significant impact on all stakeholders and brings about a sustainable, long-term positive change in society.

Key impact areas are listed in this report and ten case studies from the state of Tamil Nadu are presented to highlight the impact of the program.

## Feel-Imagine-Do-Share is a transferrable model

The transferability of the FIDS model was demonstrated by the ability of students to apply the process to design solutions to social issues. Based on the responses of the students for an activity that assessed whether the FIDS model was used to solve the issue of caste discrimination, it is evident that the students had acquired the ability to understand and articulate problems, design creative solutions and propose means of implementing change.

**Table 1.** Student responses demonstrating the FIDS approach applied to the problem of caste-based discrimination.

<b>FEEL</b> "Where is the line that divides people into caste? I don't see it." – Grade 9 Student, PUMS, Soolapuram	<b>IMAGINE</b> "Amongst us students, we never see who is from which caste. If it could be the same in society, it would be very nice." – Grade 8 PUMS, Student, Achimangalam
<b>DO</b> "I will go for an inter-caste marriage." – Grade 9 Student, PUMS, Achimangalam	<b>SHARE</b> "Visit schools in our locality and present speech skit on the topic." – Grade 12 Student, Kaligi Montford

## Participants demonstrate higher creative skills

DFC project participants demonstrated higher creative skills as compared to non-participants. Students who had participated in DFC demonstrated higher fluency (production of ideas), flexibility (production of different ideational categories) and originality (production of unusual ideas) of ideas further highlighted by the fact that 50% non-participants were likely to create images that were repeated twice as many times as that of DFC participants.

## Students learn 21<sup>st</sup> century skills and attitudes

Based on self-reported student responses, confidence and social consciousness were the most commonly inculcated skills for DFC participants. Other attributes included empathy, communication skills, collaboration, diligence, equality, management skills, motivation, pride and social awareness. Several years after the completion of the projects, students continue to report better communication skills, improved teamwork and greater confidence levels. They also demonstrate greater critical thinking and negotiation skills and have learnt networking, business planning and time and financial management skills.

## Teacher involvement improves

Teachers in participating schools demonstrated a greater ownership of school activities and improved classroom interaction. Teachers began taking the responsibility for motivating students to bring about change. In Kalachery for example, the teacher was central to leading the students for bringing about profound change in the community where a school succeeded in bringing suicide rates to zero through the DFC project initiated by a teacher.

## Parental perceptions become positive

Execution of DFC led projects not only changed the parental perceptions of education, it led to a positive change in parental attitudes towards government schools. In Aachimangalam village, for example, over 20 parents moved their children from a private school to the government school as a result of the recognition received due to the successful completion of the DFC-led Eco-wall project.

## Community behaviour changes

Based on responses received from DFC participants across the sample schools regarding changes they observed in the community post project implementation, development constituted of a quarter of the responses, followed by social awareness accounting. Other community outcomes included, change in mind-sets, confidence, equality, courage, motivation, recognition, empathy and collaboration.

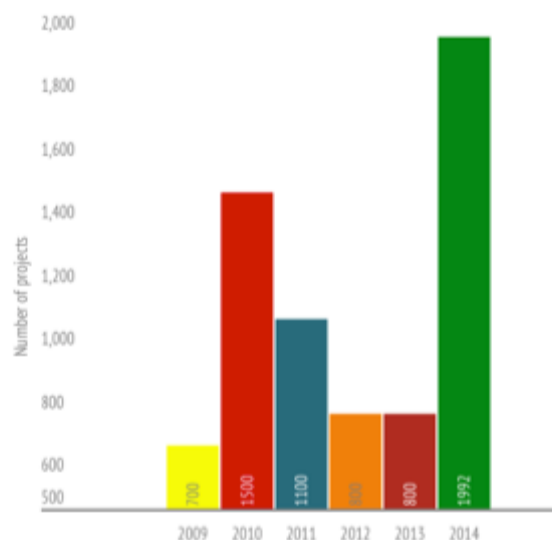
## Significant sustainable positive change follows

Significant community level improvements have been observed as a result of activities initiated through the DFC program. For example, in Bettatti, alcoholism was addressed; in Kalachery, the issue of rampant suicides in the community was tackled; in Tiruvallur child abuse was brought to the fore as an issue and in Karur, sanitation was taken up as a cause. Following the FIDS process, not only do the students and school create a positive impact on the community, but also succeeded in making long-term and sustainable change in society.

## 2. Introduction

Design for Change (DFC) introduces skills, attitudes and values such as empathy, social awareness, teamwork, critical thinking and problem solving to students through a project-based approach. DFC has created a four-step process called Feel-Imagine-Do-Share (FIDS) method to bring the design-thinking process to students. The model aims that children should **Feel** any problem that bothers them, **Imagine** a way to make it better, **Do** something to bring about change, and **Share** their story of change with the world. The model serves the dual purpose of empowering children with transferrable skills while creating a positive impact on society.

The DFC School Challenge promotes a project-based learning approach through its FIDS methodology where teachers mostly serve as facilitators, providing guidance and strategic instruction as the process unfolds<sup>4,5</sup>. As part of the challenge, students are encouraged to spend a minimum of one week working on a project to bring about positive change using FIDS approach. At the end of the project window, students record and submit their story of change to DFC.



**Figure 1.** *Number of projects submitted online in India as a part of the DFC School Challenge.*

DFC is currently operational in over 30 countries across the globe. The DFC School Challenge received 700 project entries from India and 1500 entries globally in the initial years. In 2014, these numbers have increased to 1992 and 7539 respectively.

Research has shown that students taught through project-based approaches display higher gains learning outcomes as compared to their counterparts. Project-based instruction is advantageous for all types of learners, but more so for middle to low achieving students.<sup>6</sup> Students actively involved in project-based learning have emerged with improved critical thinking and problem-solving skills.<sup>7</sup> Thus, the DFC approach is geared towards improving learning outcomes, building 21<sup>st</sup> century skills, imparting knowledge that is relevant as well as practical, and foster a collaborative environment that is interactive and engaging.

This report presents a qualitative review of the impact of the DFC program in the state of Tamil Nadu, India, conducted by Evaldesign using an in-depth case-study analysis. The aim of this study was to examine the short- and long-term impact of the DFC program on students' skills, attitudes and values, the impact on teachers and parents, the extent of the impact on the community, the and the sustainability of the change.

### 3. Research Questions

In order to understand the impact of the DFC program on students, teachers and parents and the long-term impact of the project, the following research questions were addressed.

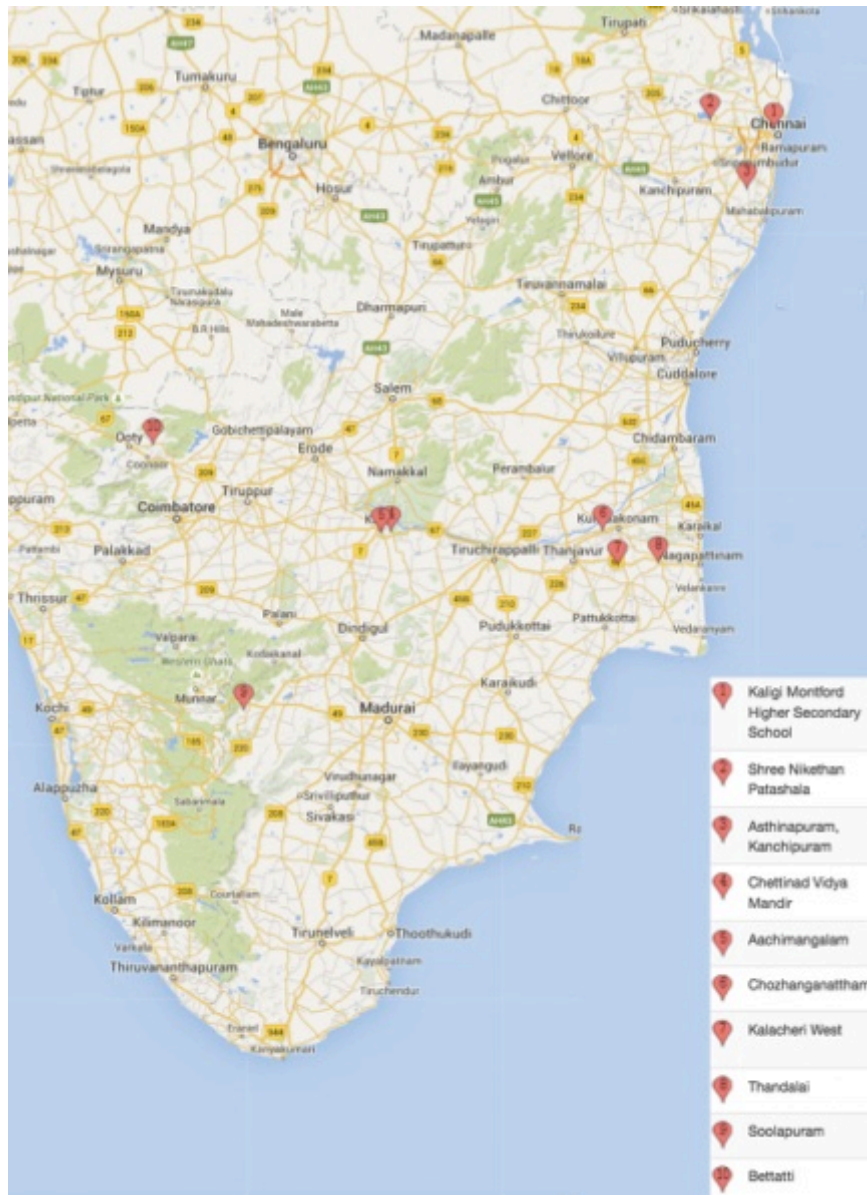
1. What is the impact of DFC on:
  - a. Student perceptions and attitudes
  - b. Student investment in education
  - c. Parental perception of education
  - d. Parent investment in education
  - e. Teacher attitudes
  - f. Community level improvement
  - g. Community and school interaction

This impact was assessed under the themes of leadership, resistance to change, resilience, innovation and curiosity.

2. What are the differences between the DFC process and its implementation (if any)? Was the FIDS (Feel-Imagine-Do-Share) model followed? Is the FIDS model a sustainable approach to passing on of transferrable skills?
3. What is the long-term impact of participating in DFC on students and teachers?
4. What was the role of the teacher and the motivation for the teacher to be a part of DFC? What is the teacher perception of students before and after the program?
5. What was the resistance faced by the students from the community in executing the project?

## 4. Case Studies

In order to understand the impact of the DFC program on students, teachers, parents, and the community, Evaldesign conducted in-depth case study analyses for DFC projects from the state of Tamil Nadu. The projects were selected using the maximum variation sampling strategy resulting in a sample that had proportional representation of all project categories. This section presents the case studies through narratives and images and highlights the impact of the DFC program on students, teachers, parents and the community<sup>1</sup>.



**Figure 2.** Location map of case studies covered across Tamil Nadu.

<sup>1</sup> Highlights of the methodology can be found in the Research Methodology section.



**Student and teacher determination brings suicide rates to zero**

## An End to Suicide

Panchayat Union Middle School (PUMS), a government school in Kalachery West is one of two schools present in the small village of Needamangalam, in Tiruvarur district of Tamil Nadu. The school's first DFC project 'Use the Toilet' in 2013 won them a special mention in the DFC acknowledgement list. In 2014, the school sent in two entries, 'Kindergarten – A wonder garden' which was placed in the Top 75 projects, and 'Stop Committing Suicide', which won a place amongst the Top 20 DFC projects.



The PUMS, Kalachery West projects addressed the suicide epidemics in a community where suicide (across generations) was viewed as a go-to solution for all kinds of reasons ranging from the most trivial such as an altercation with a neighbour to more serious ones such as domestic disputes. "... *It [suicide] was the only solution*" to problems according to the community members. Between 1995 and 2011, Kalachery village could attribute 83 of 92 deaths to suicide.

The gravity of the issue was recognized by the PUMS, Kalachery English language teacher Mr. Anand Thiagarajan. He noticed a perpetually low parent turnout at Parent Teacher Meetings in school. On enquiry, he discovered that majority of the students had lost one or both parents to suicide. Having lost his own parents at an early age, he could relate to the students and was thus motivated to take action to change the situation. His attempt to counsel community members in 2011 received a lukewarm response. Subsequently, in 2013, Mr. Thiagarajan made a second attempt to tackle the issue of suicide involving the school students and using DFC as a platform to bring about awareness.

Despite suicides having devastated a number of families, students found a disturbing lack of awareness in the community and amongst themselves, because conversations around the issue had never been initiated. A fundamental change in the attitude towards the value of life required a significant mind-set shift and posed an enormous challenge for the students and the teacher.





The change process was initiated with an impactful outreach effort where students put up a play during the school Annual Day Function. The play depicted a typical series of events leading from a trivial domestic altercation to suicide, eventually showing how the lives of orphaned children panned out, with some having to turn to begging to make a living. The play drove the point home strongly, with members of the audience admitting, "Nobody is [was] even using the word suicide". The play was followed up with a series of awareness rallies and street plays that used relevant and contextual elements such as depictions of Gods and stories of courage and faith. Basket-weaving workshops were also conducted for women so they would have some means of earning livelihoods, and potentially mitigate dire circumstances that could lead to suicide attempts. To reinforce the impact of the awareness efforts, a village youth club called the Diamond Boys was invited to provide door-to-door counselling across 380 households. To this day, the youth club enacts the annual day play on every street once in two months to re-enforce the message for a suicide-free community. Thus a multi-pronged approach

was employed to reduce the incidence of suicide in the village.

#### **At the end of the year, Kalachery recorded zero suicides.**

The school received tremendous media coverage as well as appreciation from national and international quarters leading to a surge in self-confidence. Academic performances improved too as a result of improved familial situations. One of the most important lessons learnt was that of compassion and empathy for those who had lost dear ones to suicide. Students were able to overcome resentment towards those who might have attempted or committed suicide.

Besides the very significant outcome of this project that probably saved a number of lives, selection in the Top 20 DFC award category in 2014 enabled four students, a teacher and a parent to travel to Ahmedabad. The opportunity for the children to travel outside of their village was cause for the entire community to celebrate. "When we all went to bring them back, there were crackers, it was like a festival for us" stated the Panchayat Head, "even the houses where the children don't go to school...everyone was very happy." For the participants, the world outside had awakened their curiosity. "When we are here we don't know anything but when we go out we feel like we should go out and after going there we have a desire to visit many other places in the country."







Over 7000 children made aware of child abuse and child rights

## Prevention of Child Abuse

Shree Niketan Patasala is a privately owned Central Board school situated in the interiors of Thiruvallur district. The school has been actively involved with DFC led projects since 2011. Its sister school has also submitted various projects since 2009 and the two schools have won multiple awards for their work over the years. One of their winning projects, 'Dekho Pehchano Kaho' that involved the entire school, addressed the issue of child abuse and won a DFC award in the Top 20 category in 2013.



Students at Shree Niketan Patasala chose the problem of child abuse as part of their DFC project through intense discussion and deliberation amongst peers. The inability of victims of child abuse to speak up due to the nature of the subject underscored the need to prepare children with the knowledge of abuse and equip them with strategies to protect themselves. The students therefore decided to tackle the problem from the perspective of raising awareness.

When Shree Niketan students started conversations around child abuse within the community, parents objected to the discussions by questioning the appropriateness of the topic to be discussed by school children. However, the students handled the issue sensitively and through innovative media. They painted posters, printed pamphlets, conducted rallies and performed skits to provide relevant information in their school as well as to nearby schools and orphanages.

They employed video smart boards and played Muppet® shows for younger children to remove the awkwardness of explaining "good touch vs. bad touch". The school also invited Kranti, a Mumbai-based not-for-profit organization that works towards empowering girls in red light areas, to discuss the problem with parents and the community, and the need to tackle it. The students also provided free martial art lessons to children in government schools for self-defence. Through their efforts, the students raised awareness in 10 government schools and claim to have had an outreach of over 7000 children.



To ensure long-term impact of their endeavours, the students set up a complaint box in their school that could provide an avenue for students to voice their issues anonymously. The outcome of this was that one of the younger students found the courage to report an adult who had been behaving inappropriately. The school intervened and the adult was promptly reported to appropriate authorities.

By initiating the discussions on child abuse, the students were also able to meaningfully reach out to the community. In some cases, parents came forward and shared their personal experiences and the impact childhood abuse had on their adult life and relationships. Having addressed a



sensitive issue such as child abuse and having faced resistance from the very community they wished to help, students understood the concepts of adaptive leadership and the value of effective communication. As one of the students stated, "*we learnt that nothing can stop us.*"



**KEEP  
CALM  
AND  
STOP  
CHILD ABUSE**

‘நற்கு’ தகும் மரம் போல,  
பயன் தகு வாழ்வு நீ வாழ்ந்



Student protests shut down local wine shop and convince parents to quit alcohol

## A Fight Against Alcoholism

Panchayat Union Middle School (PUMS), Bettatti is a government school located in the Nilgiri hills in Tamil Nadu. PUMS, Bettatti's association with DFC commenced in 2014, with the submission of



a project that attempted to eradicate alcoholism from the community. The project was implemented in 2011 and submitted as a DFC entry in 2014, subsequently winning a DFC Award in the Top 75 category.

Alcoholism is a widespread problem across the state of Tamil Nadu. In Bettatti, it emerged as the leading cause of most social issues, not only causing regular outbreaks of infighting and domestic violence, but also impacting

children directly. Students started discussing it because it was directly affecting their education. Many were unable to complete their homework or focus in class because of a turbulent home environment resulting from alcoholism. The Bettatti government school compound is not enclosed, and drunken individuals would frequently discard alcohol bottles in the school vicinity. This led to early exposure of alcohol to young students who would inadvertently consume the contents of the abandoned bottles. In one case, the outcome of alcohol consumption was so extreme, that it led to the death of a child's parents due to a fire started in the domestic violence that followed alcohol intake. Middle school students of PUMS, Bettatti and their teacher Ms. Pushpa thus recognized alcoholism as a critical issue that needed to be tackled to improve conditions in the community.

A multi-pronged approach was adopted by the school to tackle the problem, using individual- as well as community-level means to target the issue. The teacher asked the students to first conduct a survey to ascertain how many of their classmates faced the issue and encouraged the affected students to share their personal experiences, not only with her, but also with their own parents. In order to bridge the lack of communication between students and their parents, she



encouraged the students to share with their mothers how they were affected as a result of the events that followed when their fathers came home drunk. Further, the teacher advised them to express their concerns in the form of letters. The student's efforts were not without severe resistance as the issue they set out to tackle was one that needed a significant shift in mind-set.

Parental resistance became apparent when they tore up letters from their children, organised counter-rallies to defend the local wine shops, questioned the school's authority to interfere in their matters, and protested by insisting on consuming alcohol on school property. To counter the resistance the school invited an Alcoholics Anonymous Group that conducted plays and training sessions highlighting the consequences of drinking on health and family. This was followed by student plays that described the consequences of drinking and solutions to prevent alcoholism. Simultaneously, the students organized rallies to close down the wine shop in the school vicinity, as well as spread awareness in the community by displaying posters that asked people to quit alcohol and be human.



Gradually, parents understood the gravity of the issue, and eight adults agreed to quit alcohol. The children successfully also managed to force the wine shop out of the school vicinity. The number of individuals quitting has alcohol increased steadily over time and the school has continued to provide support.

The primary outcome of the project has without doubt been the reduced level of alcoholism in the community. One of the students stated, *"earlier my father was hitting my mother because of the alcohol but now that has stopped so she's very happy."* The project has led to an increased respect for the school and faculty not only within the village, but also from outside. It has inspired schools in neighbouring towns and villages to fight for the same cause and garnered support from the community against the recurring re-establishment of the wine shop. Longer-term impact of the project was described by their teacher: *"[in] this generation my students won't take alcohol."* Students have developed a strong sense of right and wrong and have understood the power of their own voice.



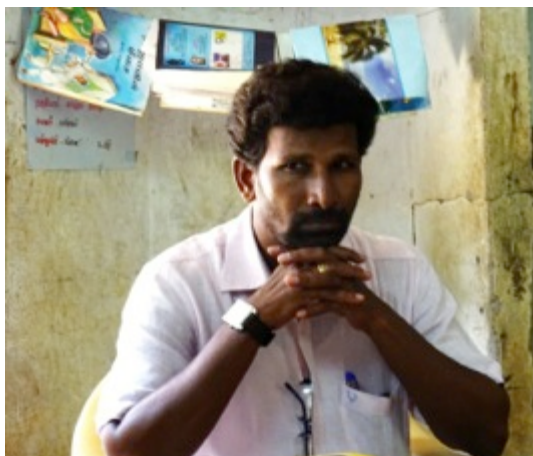
Winning the DFC Top 75 Award has added to the students' sense of self-confidence and the recognition from media as a result of winning a DFC award has led to external sponsorship for the child who had lost his parents in the alcohol-induced domestic violence. Four years after the project was implemented students, parents and the school faculty are united in protesting against a wine shop that has resurfaced near the school.





**Students collect INR 1500 and use it to construct a speed breaker  
for road safety**

## Reducing Accidents Outside School



Panchayat Union Middle School (PUMS), Thandalai began their association with DFC in the year 2014 when the students and a teacher at PUMS, Thandalai tackled the issue of road safety. Mr. Punniyamurthy, a teacher at PUMS, Thandalai had made attempts to persuade the local authorities to construct a speed breaker in front of the school, as it was located at a three-way traffic junction that was prone to accidents. However, the authorities had failed to take action. The DFC platform was eventually leveraged to solve the problem.

Grade 7 and 8 students enthusiastically participated in the project and systematically went about understanding the ground reality. They first conducted a survey to ascertain the types of vehicles and the frequency of their passage through the road outside school and understood the need to develop a mechanism of slowing down the cars. Subsequently they raised INR 1500 from class contributions to construct a speed breaker. With the support of the teacher material like cement, mud and paint was bought. They put up signs on both ends of the road announcing “work in progress” and then spent one full day laying the speed breaker and completing the construction by displaying a permanent board that said ‘Go slow. School ahead.’



The community reaction to this activity was mixed. While parents supported the project, other community members objected to village children being involved in construction activities for the school. Some went to the extent of calling it child labour. These issues were mitigated through continuous communication by the teacher. *“We tried explaining to them, this is a project, and not just that, we are trying to teach students how to solve the problems they face by themselves. When we have the DFC banner we feel safe, otherwise the public uses it as an opportunity to raise objections.”*



This project was selected amongst the Top 75 entries and had a lasting impact on the students and community. Mr. Punniyamurthy with one student and his father represented the school at the awards ceremony in Ahmedabad. The student Ananda Kumar was recorded saying, *"We [the students] didn't know that time that these are the prizes...we just wanted to do something good for the village"*. On their return from Ahmedabad, a presentation of the trip was shared with the school and the community. Recognition on a national level has increased the community's positive regard for the school and specifically for the teacher. Parents feel incentivized to invest

in such projects, now understanding that this form of learning *"Makes them [the students] grow in many ways."*

The immediate impact of the project execution was visible. One student reported, *"When we go into the road, we can walk there confidently..."* Added to this, a member of the Panchayat council said, *"they have managed to reduce the number of accidents when buses go through the village so we are very happy about that."* Longer-term impact included a heightened sense ownership of their surroundings and a sense of responsibility for others. Students are also able to take control of their own lives better and understand the value of teamwork. According to the teacher, *"if they [the students] learn to solve their small problems on their own, tomorrow they will be able to do it by themselves"*, said a proud Mr. Punniyamurthy, adding *"they [the students] have confidence that if they do it together, they can achieve whatever they want to."*







**Students master the philosophy of Reduce, Reuse and Recycle**

## A Village Free from Wastage



Panchayat Union Primary School (PUPS), Chozhanganatham is situated outside Swamimalai, a temple town in Tamil Nadu. Training conducted by DFC inspired one of the teachers, Ms. Silambarasi, to work on waste reduction in the community by reusing old plastic bottles. The project won the school a mention among the Top 75 DFC projects in 2014.

This project is a strong illustration of student innovation. Grade 5 students made sue of waste plastic bottles to create useful objects. Initially, the bottles were used to make decorative items like wall hangings and toys, as directed by the teacher's ideas. Gradually, students were seen taking more ownership and creating more useful items. Among the various articles created were a bird feeder that could hold grain and be hung on tree branches, a cobweb cleaner made using a long pipe and a stripped bottle end, a pen stand used by teachers to demarcate ownership of belongings in a grade one classroom. One of the students remodelled a bottle into a rocket using a motor and part of a cycle tire.

Increasing awareness for the immediate environment began to emerge. A school-wide system of nurturing trees and plants was set up. Each student was asked to bring two bottles of water to the school – one for their own consumption, and one for a designated tree on the campus. The designated plant or tree was rigged with a dripping bottle that was refilled every day. One student was recorded saying, *"I learnt that any item should not be wasted as it can be reused."*





Participation in projects has been formalized in the school as a part of their Formative Assessment (a grading mechanism mandated by the Right of Children to Free and Compulsory Education Act (2009)) as the parents, teachers and headmaster have begun observing changes in students. Apart from awareness with regards to the environment, students appear to be more organized overall. They *“keep their things very neatly”*, according to one of the parents. Overall, everyone *“felt very good that the children were participating in this because they were cleaning up the area and*

*reducing the waste.”*

The school received an award in the Top 75 category in 2014 along with a cash prize that was used for repairs in the school infrastructure. The project received recognition from the local Teacher’s Association, as well as from the local branch of Entrepreneurship Development Institute of India. The recognition received by PUPS, Chozhanganatham has overall led to a rethinking of the value of a government school in a nation that otherwise places a higher value on English-medium private schools. One parent affirmed this, saying *“Even though there are lots of English medium schools around here, everybody speaks very fondly of this school.”*







**Students change society by transforming beggars to self-employed adults**

## Uplifting The Life of Beggars

Kaligi Ranganathan Montford Matriculation Higher Secondary School, a private school in Perambur, Chennai, has been involved with DFC from 2010. In 2014, they implemented the project 'Stop Begging, Start Working' that addressed a community-wide need to uplift the lives of beggars and integrate them into society, which won them a place in the Top 20 DFC projects.

Students at Kaligi Montford are ambitious thinkers supported by a progressive school environment and wanted to make an impact on society. They come from mixed backgrounds with some from first generation learner families and some from well educated families. Their broad outlook is reflected in statements like *"Students should have the right to study what they like."*



While deliberating on ideas for a project for the DFC school challenge, they came up with numerous ideas. One of these included the provision of low cost wigs for cancer patients. However, this idea was rejected on the basis that the solution would impact only individuals, and the students thought they could have a much greater and lasting impact on society. After much deliberation, the students settled on the idea of improving the lives of beggars in their community.



In their attempt to understand the issue of begging in greater depth, the students met with a number of stakeholders including beggars, potential employers and community members. They uncovered deep-seated prejudices that would subsequently pose obstacles *en route* their efforts towards making a change in the lives of the beggars. While they learnt that *"they [beggars] don't beg intentionally"*, and that *"there was no other work for them [beggars] other than to beg"*, they also were faced with the beggars' own reluctance towards any external interference and a resistance to

taking up jobs. Moreover, beliefs such as, *"If you give money for any others, it is a step for heaven"* demonstrated the resistance from the community to make a change. To top it, their own parents were unwilling to let the students interact and mingle with the beggars. However, the students were convinced that *"they [beggars] should also be treated as human beings in society just like us"* and proceed to act.



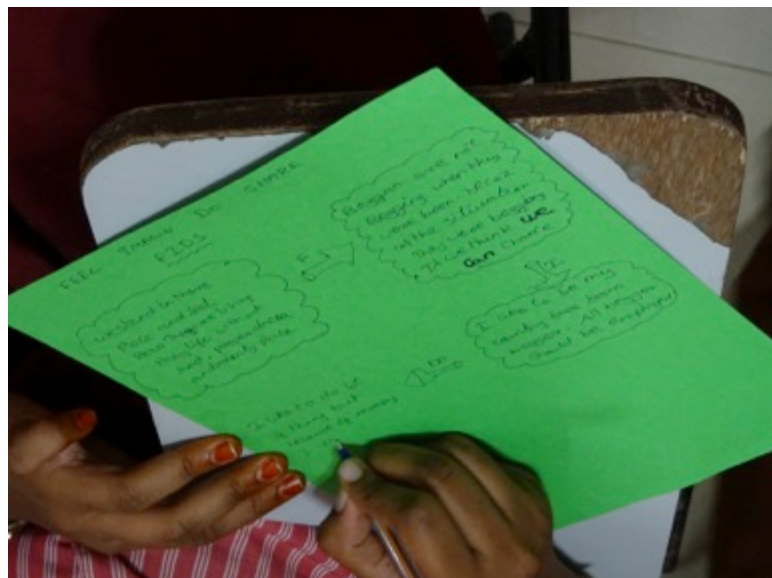
Throughout the difficult process of societal mindset change, the students learnt to maintain a positive attitude even when met with negativity. *"It is difficult to survive in society. It is like an ocean. We have to swim and survive in the ocean"*, said one of the students. They also learnt to recognize their own shortcomings. *"First we used to be shy to sit with beggars and talk to them. But now, I am proud."*

The students then approached the issue of begging with a long-term perspective in mind. To kick-start the process, the students spread awareness through placards, skits in malls and signature boards, called in celebrities, the media as well as authoritative figures like the Mayor and used social media platforms such as Facebook to persuade people to provide job opportunities to beggars and refrain from giving them money. The 3<sup>rd</sup> Saturday of September was marked as

Anti-Begging Day, and students encouraged the community to refer to beggars as "self-employed people" to remove the stigma attached to begging. They then sought to find employment for the beggars but faced resistance from most potential employers who would not trust beggars or found them unclean. The students helped beggars inculcate better hygiene habits and set up a selection process that ensured that relatively hygienic individuals who did not overtly display alcohol-related or similar issues were placed in touch with employers. Three individuals procured employment through these efforts.

The students also established a shop that could be run by one of the beneficiaries. They brainstormed various aspects of business to set up the shop. The location would determine the kind of goods sold, and hence how they would be procured. Social resistance and consumer base was also considered and thus it was agreed that the shop would be set up just outside the school premises where stationery and candy would be sold. The students pooled individual pocket expenses to collect INR 7000 that would go towards the initial investment of setting up the shop. They then sourced wholesale supplied and also set up a mechanism to replenish the goods on the basis of money turned over by the individual running the shop, thereby successfully providing a dignified livelihood.







**40 villagers registered for Eye Donation**

## The Gift of Vision



Panchayat Union Middle School (PUMS), Asthinapuram is located in the Kancheepuram district of Tamil Nadu. The school has been involved with DFC since 2010. Their first project, ‘You have heard of sunrise, have you heard of sun-rice?’ showcased a solar cooker and won them a Disney Innovation Room. Their second project completed in 2011 focused on spreading awareness about ‘Eye Donation’ and while it did not win awards, the project itself had a substantial impact on the students and community.

Enthusiasm stemming from previous DFC participation and recognition, coupled with teacher encouragement, motivated the students to think about potential problems to address in their community. During their brainstorming process, they came up with several ideas such as utilizing alternative sources of renewable energy such as cow dung, planting more trees in the vicinity and eradicating alcoholism.



A presentation in their school by Sankara Nethralaya, a not-for-profit eye care institution sparked the students’ interest in eye donation. Their interactions with the doctor regarding the procedure ended some of their pre-existing notions such as: a pair of donated eyes benefits only one patient (whereas in reality they benefit two) and people with poor eyesight cannot donate their eyes (whereas the only criterion for donor acceptability is absence of infectious diseases). In addition, a strong sense of empathy was invoked. *“There are some people who don’t have eyes, and just by sharing, we can give them vision”*, said one student. A consensus was thus reached with regards to a drive for eye donation as the project of choice.

Government

School

2011

Project Year

168

School Strength

40 People

signed up for eye donation



The students then organized themselves for implementing the program. They divided themselves into groups and appointed group leaders to execute the project in a systematic manner. Rallies were conducted to create awareness and individual groups approached assigned sets of households to discuss the idea of eye donation with members. The villagers were convinced through clear and logical explanations that dispelled any myths with regards to organ donation. Misconceptions such as, *"if you take away my eyes then I will go blind to heaven"* were put to rest. Students eventually succeeded in convincing 40 individuals to sign up as donors.



Although the project did not receive a DFC award, it has had a lasting impact on the students and the community at large. The school was upgraded from a middle school to a high school by the government and has gained greater respect from the community, as was evident in the increased enrolment in subsequent years. Students were left with a heightened sense of social awareness and the confidence to ask deep questions of status quo. *"The question is do people get kidneys [organs] if they are rich and have money or do they get it if they really need it?"* The project has left an indelible mark on the lives of the students as they were able to recall various aspects of in in great detail even four years after it was completed. They have been left with a healthy view of competition, *"today we win tomorrow we lose, tomorrow we lose, today we win. This is life."*





**Students collaborate to collect 1500 waste plastic bottles and successfully build a sustainable compound wall**

## Eco Friendly Boundaries



Panchayat Union Middle School (PUMS), Aachimangalam is located on the outskirts of Karur and has earned popularity for its 'Eco Wall' which was constructed as part of a project for DFC School Challenge in 2014.

In 2014, students of PUMS, Aachimangalam built an innovative, eco-friendly compound wall around the school. The lack of a boundary wall was an issue for the school because passers-by used to dump garbage in the school premises, stray animals would wander into the compound and given that the school was located close to a busy road, the chances of children accidentally running out to the road was high.

Inspired by knowledge shared by their science teacher Ms. Sasireka, who had watched a video on utilizing recycled waste to construct houses in low income countries Grade 7 & 8 students decided to build a compound wall for their school using environment friendly and low-cost techniques. The students first experimented by building a small 4ft x 4ft wall on campus using recycled plastic bottles filled with sand and mud, layered on top of each other. The success of erecting an experimental wall encouraged them to build a larger section of wall around the school campus. Their teacher told them *"not to wait for others and to solve their own problem of not having a compound wall."*



The next step towards building the full-scale wall was the collection of recyclable bottles in large quantities. Students collected about 600 bottles from their neighbourhood. This required presenting and defending their idea to a sceptical community. All bottles were required to be of the same size so that layering in order to build a wall could be uniform. Furthermore, it was hard to procure bottles with caps to ensure sand would be contained. Regardless, the students successfully collected about 1500 bottles in collaboration with teachers and students from other schools, a ticket collector in the transport department and with friends of their teacher. Impressed by their hard-

work and conviction, the Head Mistress of the school agreed to finance any additional material required to construct the wall.



The final execution of the construction of the wall was again a challenge. This required guidance from masons, none of whom were willing to try this experiment. Eventually, the students convinced a parent of a classmate, who agreed to help. Further community support was garnered, and with complete involvement of the students, the plastic bottles were bound by a red soil mixture, layered in levels and finally coated with a layer of cement. In one week, a complete compound wall was constructed at very low cost. A student proudly stated, *"If we were to build the wall with concrete, it would cost us around 40,000-50,000. But now we were able to do it in very low cost."*

Eco Wall was selected among the Top 5 Innovative stories of change in the Long Lasting DFC awards category. The award has brought PUMS, Achimangalam significant media attention and recognition from schools within the state and all over the country. Students are seen applying the reuse and reduce ideology throughout the school and have developed self-confidence and a strong sense of empathy towards the environment to this day. *"If we try, there is nothing we can't do"*, said one of the students, and a parent was recorded saying, *"nowadays he [his son] can do anything...earlier he used to hesitate."*

The teacher, Ms. Sasireka has also observed her students take greater ownership of activities and offer suggestions to improve learning in class. The shared experience of doing the project together has built a strong bond between the teachers and students.



The impact of the Eco Wall construction spread beyond the village and even the state. The ease and adaptability of the idea prompted five more schools to replicate the experiment. A number of teachers from schools in the vicinity approached Ms. Sasireka with a keen desire to learn more about participating in DFC. A college from the state of Kerala sent students to learn about the construction process from the school students at Achimangalam and the parent who helped build the Eco Wall has been employed by the college in Kerala to construct a similar wall at a larger scale.

PUMS, Achimangalam secured a position in the Top DFC projects and from the prize money won, they have built a Disney Innovation Room for their primary school. A sense of community pride about the school's achievement has led to increased school enrolment. In a country where private schools are invariably rated at a higher quality as compared to government schools, the uncle of one of the DFC participants immediately transferred his own son from a private school to PUMS, Achimangalam along with 23 other parents.





30 villagers learn to read and write due to the determination of teenage girls

## Eradicating Adult Illiteracy

The Panchayat Union Middle School (PUMS), Soolapuram, is a government school located in the village of Silamalai in Theni district of Tamil Nadu. The school has been involved with DFC since 2013. Their first project on 'Waste Water Management' was submitted in 2013, followed by 'Eradicate Illiteracy' in 2014, which focused on providing basic literacy skills to illiterate adults in the community. The latter won a DFC award and brought considerable recognition to the school.



Adult literacy gained importance in light of national-level policy interventions that led to a change in the employment status for the community as a whole. Agriculture had been the main source of income in Silamalai for generations and literacy was never a pre-requisite for gaining employment. However in 2006, the government introduced the rural employment guarantee scheme (National Rural Employment Guarantee Act or NREGA), which grants unemployed rural individuals one hundred days of employment per year. All workers availing the scheme are required to sign timesheets to redeem remuneration in exchange of work. Given that most participants in the scheme were illiterate, thumbprints were used as a proxy to signatures to acknowledge the receipt of wages. Students of Grade 8 at PUMS, Soolapuram recognized that not being able to sign their names on timesheets was an embarrassment for the adults in their community. They further recognized that signatures were also needed for



using smart cards at ration shops and opening bank accounts. Moreover the inability to read invitation cards and destinations on buses often resulted in humiliation and inconvenience for the community. They therefore decided to teach basic reading and writing to the adults in the village.



The students first outlined the scope of intervention through a survey that ascertained the exact number of illiterate community members. They then took into consideration their own as well as the community's time constraints before setting out to teach. Given that the students had to attend school and the community members worked during the day, they decided to teach in the after school hours. They allotted a considerable amount of time in the evenings and on weekends to teach their parents and neighbours how to sign their names, read the alphabet and count money. Around 30 adults in the village of Silamalai were thus taught over a period of one month.

Teaching adults could be a challenging task, particularly in traditional communities. Not surprisingly, some students faced resistance from their own families as the evening teaching activities took time away from their household chores. However, by effectively communicating the importance of literacy and of their work, students obtained the necessary support to teach basic literacy skills to the adults.

A number of positive spillover effects were observed as a result of the project. The students had utilized lesson time to disseminate information on cleanliness and hygiene to the community. The project was successful in instilling a sense of empowerment for both, the students as well as the community members, with one of the community members stating that he had *"not studied but at least now I can do these small things on my own."* Often, education is not given due priority because the long term benefits are not evident immediately. However, this project allowed the students to realize the value of education as one of the students mentioned, *"We [the students] understood that people listen to those of us who go to school because we have studied."*

Silamalai is an extremely traditional village with practices that demonstrate high levels of gender discrimination. For example, girls and women are required to leave the village and inhabit a hut outside the village during menstruation. Also, girls are not allowed to attend secondary school due to distance and safety issues. One of the most significant impacts of DFC was observed in the fact that the DFC participants are among the few girl students who are currently enrolled in secondary school. One of the mothers was recorded saying: *"I won't be able to study further but for my daughter at least it will be nice if she studies further and gets collector's job."*







**Students raise INR 600,000 and construct 20 individual  
toilets to stop open defecation**

## Prevention of Open Defecation

Chettinad Vidya Mandir (CVM) is a private central board school located in the textile town of Karur. Students at CVM have participated in the DFC school challenge for four consecutive years, submitted a total of 42 stories, and have been recurring award winners and DFC ambassadors. In the year 2014, their project addressed the problem of open defecation in a neighbouring village and won an award in the DFC Top 20 category.



At CVM, 'Circle time' is a school-wide practice in which students and teachers get together to discuss ideas, opinions and views on diverse issues. In one such discussion, students brought up the issue of open defecation. They had learnt through a United Nations report, that the issue of open defecation is a global concern. Closer to home, they were significantly impacted by the story of a girl in the Indian state of Bihar who had been raped and murdered while defecating in the fields.

The students therefore recognized open defecation as an urgent problem that needed to be addressed.

After choosing a small village called Vellapati located half a kilometre from the school, the students set out to understand the different aspects of the issue. They found that defecating in the fields was the only option for majority of the villagers despite facing physical danger from the wild and humiliation from land-owners and passers-by. A public toilet was available in the village, but the keys were held by a village elder and handed out on a discretionary basis, thereby limiting access to individuals. Moreover, the maintenance of the public toilet was very poor and the funds provided by the government to buy cleaning supplies were being used for personal expenditures. The students realized that further investment in the public conveniences would be a wasted effort and

agreed on constructing toilets for private homes.

They held meetings and discussions with the local

Administrative Services officials (Collector) and the Panchayat, finally

obtaining permissions to construct individual toilets.





They developed a plan of action for constructing the toilets. First a location was chosen based on availability of space to build a septic tank. They agreed on building 20 toilets for individual homes along the street occupied members of the Scheduled Caste and Scheduled Tribe (SC/ST) community, who come from socioeconomically backward sections of society. Thus, through a mix of research and serendipity, the social as well as the health and safety aspect of the impact was maximized.

A number of activities were undertaken for fundraising and project implementation. In order to raise funds, the students organized and conducted a school-wide carnival where numerous activities, games and stalls were set up. Funds were also raised through sponsorship from the local bank – Karur Vysya Bank – as well as the Rotary Club of Karur Angels. A six km run was organized in which all sister schools of CVM participated. The run garnered significant media attention and hence support for the construction of toilets. A total of INR 600,000 was raised for the construction of 20 toilets at INR 30,000 each.

Taking a long-term vision and ensuring sustainability of their efforts, the CVM students visited government schools in the village of Vellapati and conducted sessions on hygiene for other students. These sessions used games and interactive means of conveying the importance of cleanliness, hygiene and of using and maintaining the toilets. These sessions were conducted in the local language despite the fact that CVM is an English Medium school. Rallies and posters complemented these activities.

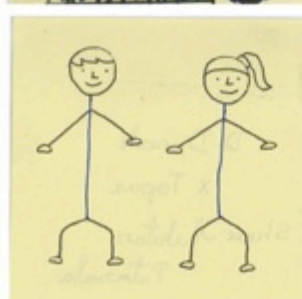
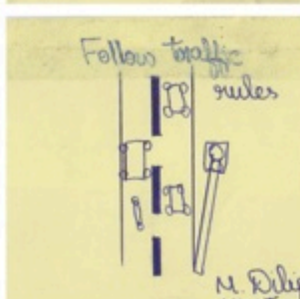
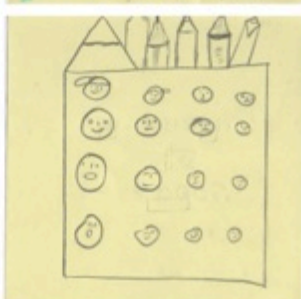
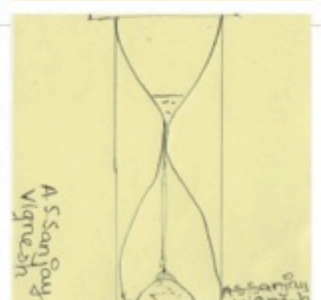
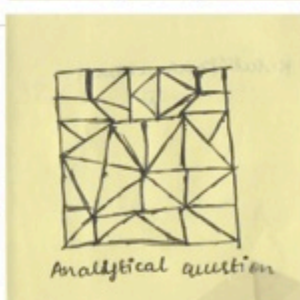
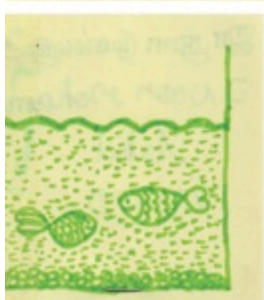
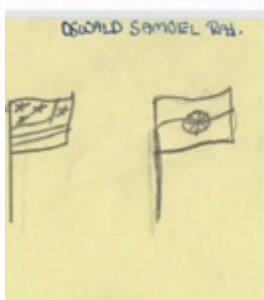
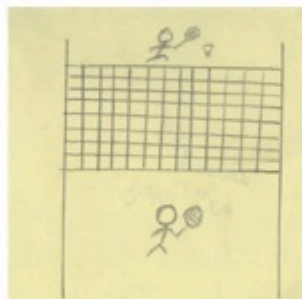
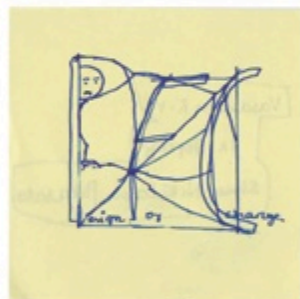
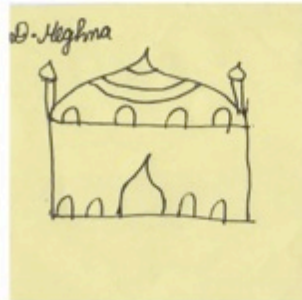
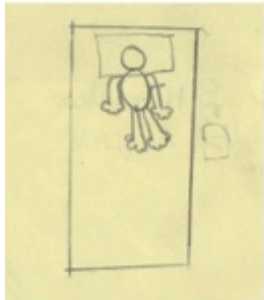


The project earned the school a DFC award in the Brave Story category and a third Disney Innovation room. Two students, along with their teacher Ms. Padmapriya were selected to go to Ahmedabad for the ceremony. Ms. Padmapriya expressed that representing the school at a national level and interacting with students from all over the country has made her students far more confident. Beyond sustained support from most parents, the project has also transformed the more sceptical parents. One parent who initially disapproved of their child's participation in a toilet related project is said to have tears in their eyes hearing the child deliver the speech at the inauguration of the toilets in September 2014.



The project has led to a long lasting change in the way people in Vellapati perceive cleanliness and hygiene. One of the men in the village, Mr. Madurai Veeran was recorded saying, *"My daughter immediately asks me to go buy hand wash if it gets over in the house!"* Students continue to make surprise visits to assess the conditions of the bathrooms constructed by them, ensuring their efforts continue to be useful to society.





## 5. Transferability of the DFC Model and Impact on 21<sup>st</sup> Century Skills

The DFC program aims to impart 21<sup>st</sup> century skills like empathy, creativity, teamwork, communication, critical thinking, problem-solving and entrepreneurial skills in students across the world through the FIDS model. To determine the transferability of these skills students were engaged in multiple activities. A Torrance Creativity Test item was administered with both DFC participants as well as non-participants to evaluate whether creativity could be attributed to project participation. The transferability of the FIDS model was also assessed through its application to a common societal problem across students in all ten schools. Additionally, self-reported changes observed by the participants in themselves and in their community post the implementation of the project were also assessed. This section provides further details on the analysis of the results yielded by these activities.

### Transferability of the FIDS Model

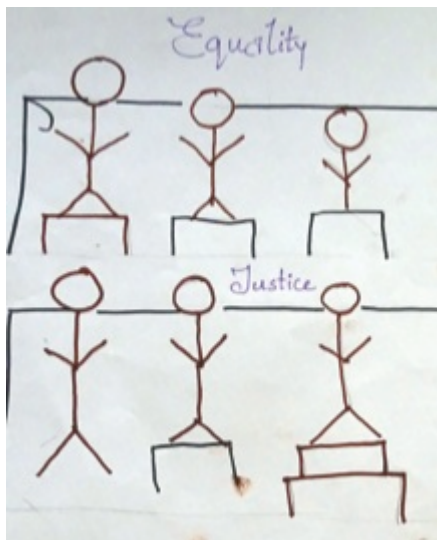
The transferability of the FIDS model was assessed using an activity that tested whether the students were able to apply the learning from the DFC project to other situations as well.

Discrimination on the basis of caste is a common practice in India. Students who had participated in the DFC project were given the problem of caste discrimination and given a designated time to brainstorm on how they would solve the issue on using the Feel-Imagine-Do-Share-Model (FIDS) model to find a solution for the same. This exercise also determined whether the students were able to apply collaboration, empathy, problem-solving, critical thinking and creativity to new situations.

The results of this activity are highlighted as a sample of quotes representative of the four aspects of the FIDS model. The quotes are representative across schools.

#### Feel

*"They say that higher caste and lower caste means there was a system here they are not suppose to walk or move in front of people of higher caste and even whenever they are walking with a band on the head then whenever they see upper caste they will remove that and put it in their waist to show respect, they will also not wear chappals [slippers]." - Grade 9 PUMS, Asthinapuram*



*"The people who eat fish and different kind of meats are looked down upon as lower caste. And those who don't eat are upper caste. So those upper caste people don't go to their houses. They don't sit with them or talk to them. If people from one community get married to other community then they throw both of them out of the village. If people from this village go other village then they are looked down upon and not allowed to come back. Lot of fights break over caste." – Grade 8 PUMS, Thandalai*

*"Where is the line that divides people into caste? I don't see it." – Grade 9 PUMS, Soolapuram*

*"The upper caste people don't let in lower caste people into the temples. They also don't visit the lower caste people's houses don't buy things from them, and even if they visit the houses, they won't eat there."* – Grade 9 PUMS, Achimangalam

*"During weddings, the food is served from different places to different caste people."* – Grade 8 PUMS, Achimangalam

*"During some important work or exam, if an upper caste person sits on a chair, he will tell the lower caste people to sit far away from him. They should sit below them, not on the chair or bench. They will dictate the lower caste people, or threaten to make them leave the village."* – Grade 8 PUMS, Achimangalam

## Imagine

*"I feel like we should not have caste at all and not discriminate based on caste because we all have same blood."* – Grade 9 PUMS, Asthinapuram

*"Making India free from discrimination."* – Grade 12 Kaligi Montford

*"All caste people should be together there should be no fighting. Nobody should bring the question up of caste itself."* - Grade 8 PUMS, Thandalai

*"Everyone should be together."* – Grade 6 PUPS, Chozhanganatham

*"Amongst us students, we never see who is from which caste. If it could be the same in society, it would be very nice."* – Grade 8 PUMS, Achimangalam

## Do



*"In the school campus, if children learn and play together without seeing the religions, there will be no caste problem."* – Grade 8 PUMS, Thandalai

*"Whenever there is some important person in a high Government post, we ask them what caste are they from. We should stop asking about the caste of those important people."* – Grade 8 PUMS, Achimangalam

*"I will go for an inter-caste marriage."* – Grade 9 PUMS, Achimangalam

*"There should be a fine for people who discriminate on the basis of caste."* – Grade 8 PUMS, Achimangalam

*"Solution from the government side is making strict laws, to reservation, awareness of this caste discrimination and from our side we should mingle with those people, with everybody, whoever*

*they may be, the backward caste, educate and make aware everybody of this topic.” – Grade 10 Chettinad Vidya Mandir*

## Share

*“Visiting schools in our locality and presenting speech skit on the topic.” – Grade 12 Kaligi Montford*

*“We should go and tell children, don’t fight because of caste.” – Grade 6 PUPS, Chozhanganatham*

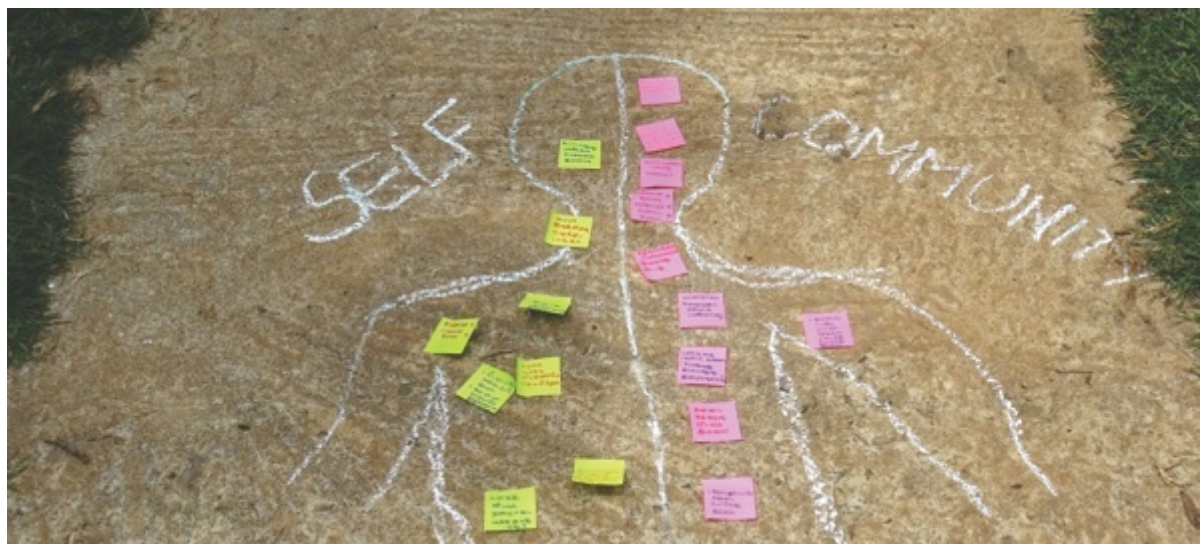
*“Caste discrimination divides our nation, lets create relation to avoid confusion which leads to frustration.” – Grade 10 Chettinad Vidya Mandir*

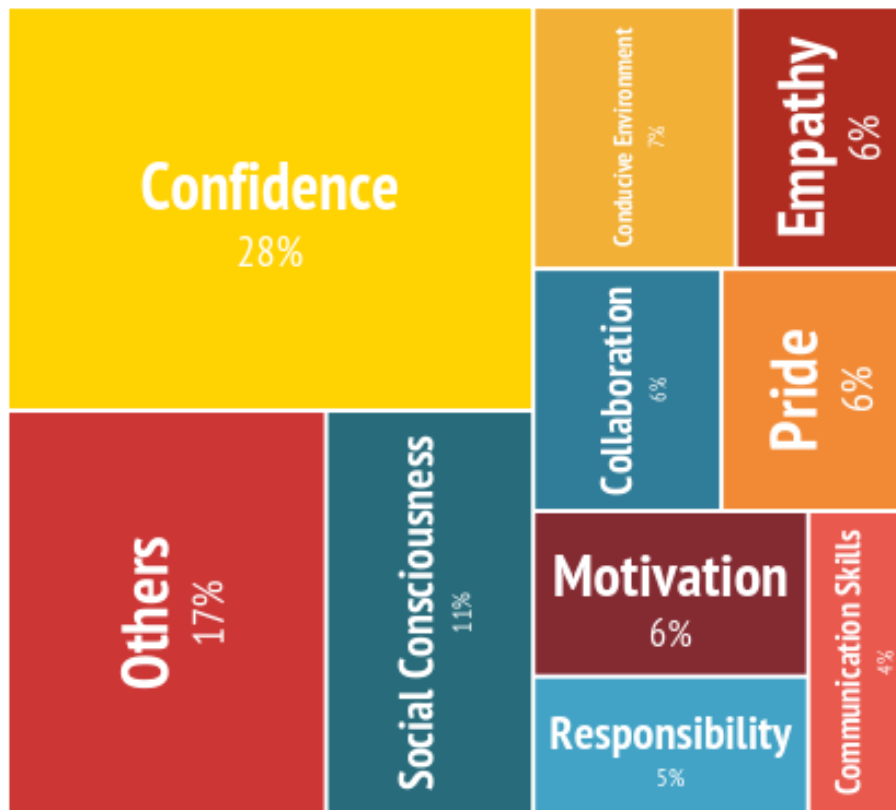
*“Creating awareness among school students for uprooting the caste system” – Grade 12 Kaligi Montford*

Based on the responses of the students for the activity that assessed whether the FIDS model could be used to solve previously unsolved issues, it is evident that the students have acquired the ability to understand and articulate problems, design creative solutions and propose means of implementing change, thereby reiterating the transferability of the FIDS model.

## Perceived Changes in Self and Community

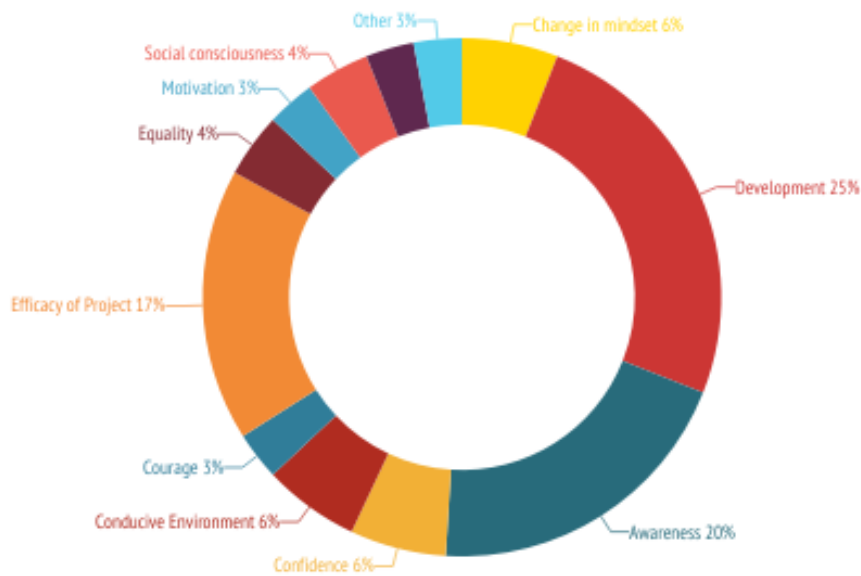
The DFC participants were asked to reflect and report changes they have observed in themselves and their community after participating in the DFC School Challenge. An analysis of all the responses highlights that at an individual level maximum participants felt they gained confidence post their project.





**Figure 3.** *Self-reported Changes in Students post DFC Project*

Based on 81 responses, received from DFC participants across the sample schools, regarding the changes they observed in themselves post project implementation, it was seen that the most common quality inculcated amongst students was confidence (28%), followed by social consciousness (11%). Other values included empathy, communication skills, collaboration, diligence, equality, management skills, motivation, pride and social awareness.



**Figure 4.** *Changes in Community as reported by Students*

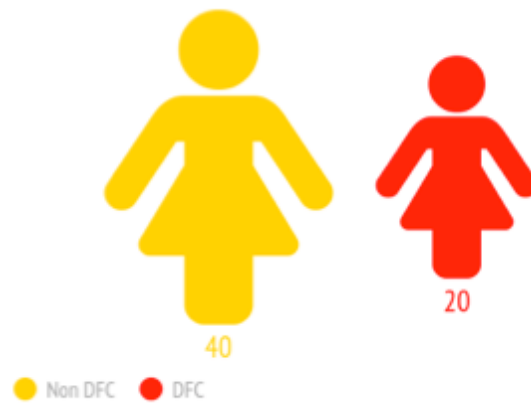
Based on 81 responses, received from DFC participants across the sample schools, regarding changes they observed in their community post their project implementation, the most common outcome observed was development which constituted 25% of the responses, followed by social awareness accounting for 20%. Other outcomes included- efficacy of projects, change in mindset, confidence, equality, courage, motivation, recognition, empathy and collaboration.

Overall, the perceived changes in self and community that the students articulated correspond with essential 21<sup>st</sup> century learning goals.

## Creativity

Imagining and executing the kind of projects outlined in this report requires creativity. The creative skills of students were thus measured and it was found that those who had participated in DFC projects had higher creative skills as compared to those who had not.

Creativity is a complex skill essential to understanding human development (Kerr & Gagliardi, 2003)<sup>8</sup>. Over the course of time, multiple efforts have been made to understand the psychological meaning of the construct and its significance. The Torrance Tests of Creative Thinking (TTCT), created by Ellis Paul Torrance, is one of the most widely used tests in which a student is asked to complete an abstract drawing using imagination to make an image of their choice. In terms of dimensions, Guilford and Torrance have defined and consolidated different processes that have been universally assumed in the assessment of creativity: fluency (production of ideas), flexibility production of different ideational categories), originality (production of unusual ideas) and elaboration (persistency on introducing details to products).<sup>9</sup>



**Figure 5.** *Median Frequency of images recorded for the Torrance Creativity Test by DFC (n=90) and Non-DFC participants (n=211).*

Student creativity was measured for this evaluation using a single item from the Torrance test, i.e. parallel lines and the students were asked to complete the image. While using a single item is a limitation of this aspect of the study, it was indicative of the creative skills of the students. Both, students who had participated in the DFC project as well as those who had not, were part of the activity. The drawings were collected and graded on the basis of frequency or uniqueness and the elaborateness of responses.

Analysis of 301 students from across 10 schools showed that students who had participated in DFC demonstrated higher levels of creativity. As seen in the figure above, the median frequency (non-uniqueness) of an image created by a DFC participant was 20, whereas it was 40 in the case of a non-participant, indicating that 50% of non-participants were likely to create images that were repeated 40 times, twice as many times as that of DFC participants, thus implying that DFC participants are capable of coming up with more creative ideas given certain constraints. The results were statistically significant at an alpha of 0.01. There was no impact of class on creativity levels.

## 6. Logical Framework

Overall analysis of the case studies has led to the emergence of a strong theory of change for the successful implementation of the DFC program. The program flow is described in the next figure and is as follows:

Exposure to a stimulus leads to students selecting a solvable problem. Subsequently a needs analysis is conducted to identify a feasible solution to the issue. Students then plan for the successful implementation of the project eventually leading to societal impact through dissemination of information and eventually recognition of the students' efforts. Participating in the program eventually leads to change in attitudes and a gain in 21<sup>st</sup> century skills.

## 7. Conclusions and Policy Implications

According to the 12<sup>th</sup> Five Year Plan of the Planning Commission of India, (2012-17), the projected increase in labour force for the 15 and above age group is estimated to increase from around 24.5 million to 477.9 million in 2011 with a further increase to 502.4 million by the end of 2017. Amongst the governments' priorities is the development of an eco-system for improving the quality of training in self-employment by introducing a set of skills that can be transferred and adapted to different work needs and environments. These skills have also been defined by the World Bank's Skills towards Employability and Productivity (STEP) initiative.

The skills introduced through the DFC program correspond with the categories defined by the STEP initiative and include<sup>10</sup>:

- Cognitive skills: these include critical thinking, literacy and elements of practical numeracy
- Socio-emotional skills: these include behavioural and attitudinal traits such as empathy, risk taking, integrity, initiative, attitudes towards gender roles and sense of social responsibility
- Job-relevant skills: these include entrepreneurial skills, negotiation, communication, networking and teamwork, business planning and financial management

At a cost of USD 10 to train a teacher, a minimum 10 students are impacted through the DFC challenge using conservative estimates. Therefore at a highly cost-effective rate of 1 Dollar per student per year, DFC addresses the need for learning transferable skills and creating a long-term impact on students. If the impact on teachers and community is considered, the DFC program probably one of the most cost-effective means of inculcating attitudes, values and skills most needed for the 21<sup>st</sup> century.

While further research is required to confidently attribute causality to the impact of the DFC program and to measure the effect size per dollar spent; given the transferability of the FIDS model, the DFC program lends itself to easy expansion and is likely to have a lasting positive impact on students and the community if scaled up.

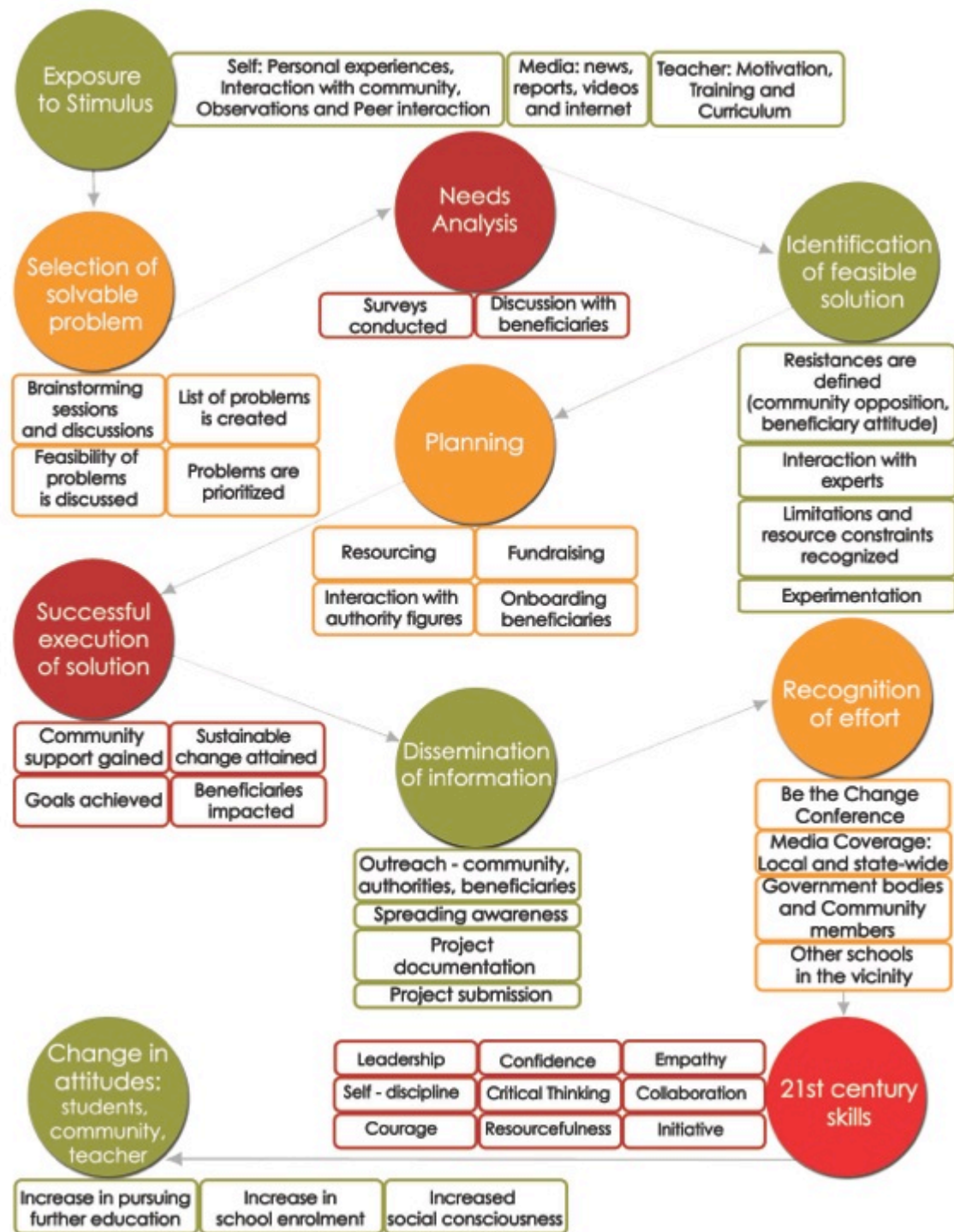


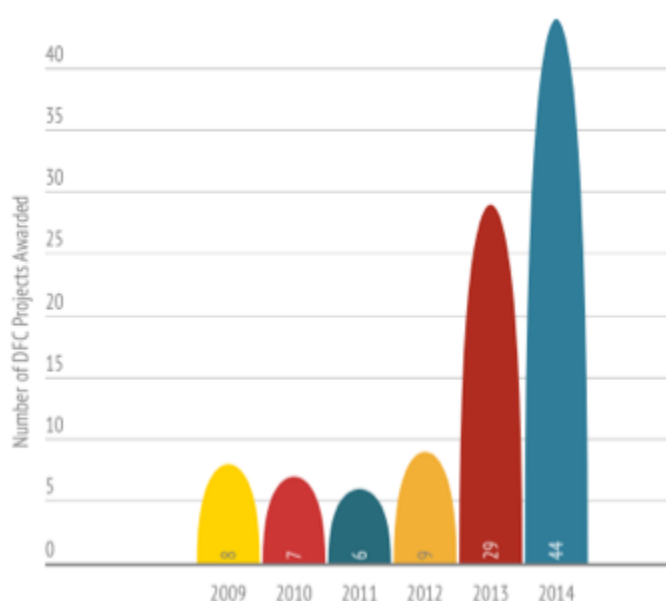
Figure 6. Logical Framework for the implementation of the DFC program.

## 8. Research Methodology

### Sampling Strategy

In qualitative research, sample selection has a profound effect on ultimate quality of research (Coyne 1997).<sup>11</sup> As per Patton (1990), it is important to select “information rich cases for study in depth. Information rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research.”<sup>12</sup> Hence, for the purpose of this project the strategy of **Maximum Variation Sampling** has been used to select 10 projects for in depth case studies.

Maximum variation sampling is formulated by identifying key parameters of variation and then finding cases that vary from each other as much as possible. This sampling yields: (1) high-quality, detailed descriptions of each case, which are useful for documenting uniqueness, and (2) important shared patterns that cut across cases and derive their significance from having emerged out of heterogeneity’ (Patton, 2002).<sup>13</sup> According to Sandelowski (2000), this strategy is especially useful as it allows researchers to explore the common and unique manifestations of a target phenomenon across a broad range of phenomenally and/or demographically varied cases.<sup>14</sup>



**Figure 7.** *Total number of winning entries submitted for the DFC School Challenge over years.*

There have been a total of 2901 DFC registrations from Tamil Nadu which have resulted in 1351 submissions from government schools, private schools and partner organisations during academic years 2009-14. In order to select 10 of the most data rich stories, the sample was first narrowed down by selecting only the entries which were a part of the Top 20, Top 75, Jury Mention or Disney Innovation award categories. This led to the emergence of 103 projects belonging to three broad themes – Environment, Health and Social. The proportional

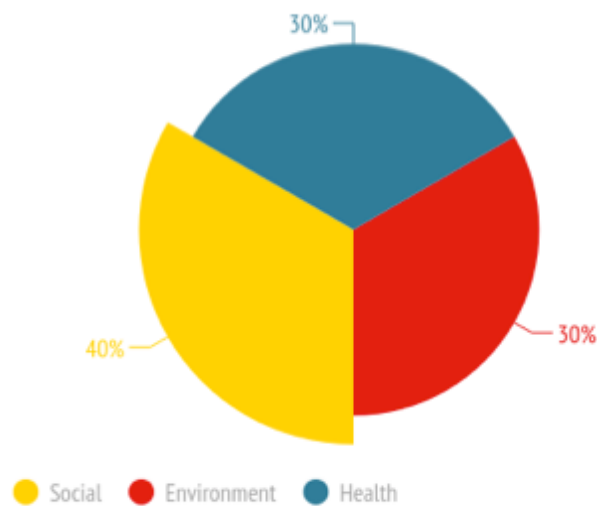
representation of each story in the sample was almost identical to the proportion in the complete list of projects.

For the purpose of selecting these projects in an unbiased manner 6 broad grading themes were created. The table below outlines the grading rubric used to assess the projects, which defines all six themes in detail.

**Table 2.** *Grading rubric for the selection of projects for in-depth case study.*

Parameters	Definition
Leadership	A project scoring high on the leadership theme displayed a high level of accountability in the attitude of the students. It highlighted initiative taken by students in all aspects of the project. Maximum onus of activities done for the completion of the project was on the students and not the teacher. The content of the project clearly displayed the element of being student led.
Resistance	Resistance in this context was defined as opposition faced in implementing the project from external factors. External factors could include but were not limited to environmental constraints, societal restrictions and parent/community disapproval, lack of resources, inhibition and lack of support from the school. Higher resistance in executing the project led to a higher overall score. Marks were allotted based on the information presented in the project and no other assumption was made by the assessor.
Meeting FIDS Model	Each project presents information in the FIDS model. This theme was graded in an objective manner based on the outputs of the project as highlighted in the content of the submission. A project scoring high marks was one which was successfully able to showcase concretely measurable outputs. Outputs in this context were defined as immediate short-term changes that occurred as a result of the project.
Impact on Attitude	Each project is expected to have an impact on students thinking and result in a positive change in their attitude (examples include but are not limited to change in behavior, increased display of empathy, decrease in indulging in problematic behavior, higher investment in school, aspirational changes, stronger sense of right v/s wrong, higher concern towards peers, elders and environment). A project with greater scope for bringing about this resultant change scored a higher grade.
Innovation	Innovation was measured across 2 aspects- Innovation in terms of the main idea of the project and Innovation in terms of the execution of the project. This was judged based on the assessors' opinion of the degree of innovation displayed in a particular project.
Impact	This theme was aimed at assessing the overall impact of a project in terms of its outcomes. Outcomes for the purpose of this evaluation were defined as long term changes that occurred/are likely to occur as a result of the project. This shall also encompass the beneficiaries who were likely to benefit by this project. The wider the impact of the project the higher was the resultant score. This parameter was open to subjectivity based on the opinion of the grader and what he/she could foresee as the logical impact of the project.

Based on the parameters described, a double-blind assessment was done for all available projects on a 3-point scale for each theme. The data for 20 projects from 2009-11 was unavailable and hence, a total of 83 projects were finally evaluated. Annexure 1 summarizes the top 10 projects (7 from government and 3 from private schools), which were evaluated in detail based on access and availability. Two days were spent per school recording in-depth the responses of stakeholders.



**Figure 8.** *Pie chart representing the categorization of projects submitted for the DFC School Challenge in Tamil Nadu.*

## Data Collection

The students, teachers and community members who are the stakeholders of the study were the primary sources of data. Specific questions and activities were designed in order to elicit evoke responses from the stakeholders to answer the broader research questions described above are described in this section. The following tables summarize this information for each stakeholder:

**Table 3.** *Semi-structured questionnaire details and activities for students.*

STUDENTS
<ol style="list-style-type: none"> <li>1. Describe your DFC project <ol style="list-style-type: none"> <li>a. What problem did you choose?</li> <li>b. Why did you select this particular problem?</li> <li>c. What motivated you to do this project?</li> <li>d. What did you decide to do about solving this problem?</li> <li>e. Can you explain how you went about doing the project stepwise?</li> <li>f. How did you go about executing your ideas?</li> <li>g. What hurdles did you face in trying to reach your goal?</li> <li>h. How did you feel?</li> <li>i. How did you overcome these hurdles?</li> <li>j. What was the final outcome?</li> <li>k. How did you feel?</li> <li>l. Do you think your project has helped change the world? How?</li> <li>m. What was your biggest learning from this experience?</li> <li>n. What is the best thing about this entire process?</li> <li>o. How much time did you spend on your DFC project?</li> <li>p. Were your parents in support of you doing this project or against it?</li> <li>q. How did your project impact your community?</li> <li>r. Has the attitude of your parents changed in any manner?</li> <li>s. Who is your role model? What are the 3 qualities a good role model should have?</li> <li>t. Do you think doing this project has changed you in any manner? Describe the change.</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>2. In case the school was a recurring participant then these questions were asked in context of all previous year projects. In addition, the following questions were asked: <ol style="list-style-type: none"> <li>a. Was there anything that you learnt in the first project that you did not repeat the next time?</li> <li>b. Which project do you think was more effective and why?</li> <li>c. What motivates you to participate every year?</li> <li>d. Has participating in DFC changed your dreams for your future?</li> <li>e. How do you select your DFC Projects?</li> <li>f. Has the support from your community increased with time?</li> </ol> </li> </ol>
<ol style="list-style-type: none"> <li>3. In the event of the school being one of the winning entries the following questions shall be asked to students who went to Ahmedabad: <ol style="list-style-type: none"> <li>a. How did you feel when you won?</li> <li>b. Did you know what winning DFC would mean?</li> <li>c. Did your parents allow you to go to Ahmedabad easily? Give reasons</li> <li>d. Why were they apprehensive? How did you convince them?</li> <li>e. How did you feel when you went to Ahmedabad?</li> <li>f. How did it change you?</li> <li>g. How did your parents feel about your victory?</li> <li>h. Did you come and share your experiences with your classmates?</li> <li>i. Is winning the only motivation to participate in DFC?</li> <li>j. Will you still want to participate if you don't win?</li> </ol> </li> </ol>

4. In case the school is a winning entry following questions was asked to students who could not go to Ahmedabad:
  - a. How did you feel when you were not selected to go to Ahmedabad?
  - b. What did you learn from your friends who did go?
  - c. Do you still want to participate next year despite not going?
5. The students were engaged in the following activities:
  - a. Map your journey (mind-map) from the start to the end of the project.
  - b. The shape of a human body was drawn and divide into half. Students were then asked to note down the changes they observed in themselves in one half and the changes they observed in the community in the other half post their DFC participation.
  - c. Torrance Creativity Test
6. How will you apply the FIDS model to solving the problem of caste discrimination?

**Table 4.** *Semi-structured questionnaire for teachers.*

TEACHERS
<p>1. The following questions were asked to the teachers:</p> <ol style="list-style-type: none"> <li>What made you sign up for DFC?</li> <li>Describe the process of choosing your project.</li> <li>Were your students excited about this project?</li> <li>What motivates your students to be a part of DFC?</li> <li>Can you describe how you did the DFC project?</li> <li>What was the biggest challenge that came up while doing the project? How did students feel about this?</li> <li>What is the most exciting part about DFC for your students?</li> <li>Do you think the project has changed your students in any manner?</li> <li>Has DFC had an impact on the academic results, attendance and attitude of your students? If so, how?</li> <li>Inquire about enrolment of the school</li> <li>In what way has the project impacted the community?</li> <li>Was the community against the project at first or did you get all necessary support?</li> <li>Does the community take more active part in school activities now?</li> <li>Did you notice any changes in your co-teachers or HM through this project?</li> <li>What would you say are some of the skills DFC has taught your students?</li> <li>How much time does DFC require?</li> <li>What is the training given to you for DFC? What content do you receive as part of the training?</li> <li>Do you think this had led to an increase in the investment level of your students?</li> <li>Is it useful? Give reasons. How could it be made even better?</li> <li>Why would you recommend DFC to other teachers and schools?</li> </ol>
<p>2. In case of a winning entry the following questions were added:</p> <ol style="list-style-type: none"> <li>Did you know about the winning prize of DFC?</li> <li>On what basis did you select the students who went to Ahmedabad?</li> <li>How did the students who could not go feel? How did their parents feel?</li> <li>How did your students feel when you took them to Ahmedabad?</li> <li>How did you feel about that experience?</li> <li>Did you face any resistance from the parents about sending their children. If so, then explain how?</li> <li>How do you think the community felt when they found out the experience of those who went to Ahmedabad?</li> <li>How do you think that experience impacted your students?</li> <li>Do you think there was a larger impact of the projects on the students who went to Ahmedabad as opposed to those who did not?</li> <li>How did the other children who could not go feel?</li> <li>What changes did this experience bring in your students?</li> <li>What changes did winning bring in your HM?</li> <li>What will motivate you to participate in DFC again next year?</li> </ol>

**Table 5.** *Semi-structured questionnaire for parents and community*

PARENTS AND COMMUNITY	
1.	<p>The following questions were addressed with the community members and parents:</p> <ul style="list-style-type: none"> <li>a. Do you know what the children did as a part of DFC?</li> <li>b. How did you feel about your child participating in such a project?</li> <li>c. What motivated the children to do this?</li> <li>d. Do you think it has changed your child in any manner? Describe the change.</li> <li>e. Do you think it has changed your life in any manner? Describe the same.</li> <li>f. Do you think your child is more invested in education after being a part of this project?</li> <li>g. Do you feel involved in the school life of your child?</li> <li>h. Would you like to be part of such a project?</li> <li>i. Did you see a change in your community because of the DFC project?</li> <li>j. Do you think there will be any changes in your community 10 years from now? Describe the same.</li> <li>k. What do you want your child to do in the future?</li> <li>l. How do you think DFC is changing the thinking of your child?</li> <li>m. Do you want the children to participate again next year? Why?</li> </ul>
2.	<p>In case we are interviewing the parent of a child who won the following questions were added:</p> <ul style="list-style-type: none"> <li>a. How did you feel when your child won?</li> <li>b. How did you feel when he/she was selected to go to Ahmedabad?</li> <li>c. Were you apprehensive to send your child out of Tamil Nadu?</li> <li>d. How did you feel when your child was not selected to go to Ahmedabad?</li> <li>e. Do you think winning DFC brought any change in your child? Explain the same.</li> <li>f. Do you think winning DFC brought any change in the community? Elaborate.</li> </ul>

## Analysis

This section describes the analytical process for the development of the case studies outlined in this study. A total of approximately 100,000 words were translated and transcribed to text from interview and focussed group discussion (FGD) recordings.

The logical framework (logframe) was then overlaid onto the DFC framework to develop the analysis framework. A logical framework is a tool for arranging a large amount of data in a concise and coherent way. It displays the key elements of a project in relation to each other which then facilitates analysis and measurable impact.<sup>15</sup> The framework for this analysis breaks down each step of the Feel-Imagine-Do-Share DFC model into its corresponding process flow that consists of the inputs required to achieve each step, the outputs from the inputs and the outcomes resulting from the outputs. This framework is outlined below.

**Table 6. Framework for analysis of transcripts from semi-structured interviews and focused group discussions.**

	INPUT	OUTPUT	OUTCOME
	Inputs describe what participants are doing at every stage	Outputs are the measurable result of the inputs	Outcomes demonstrate the long term impacts as a result of the inputs and outputs
<b>FEEL</b>			
To think of a relevant problem for the project which students feel passionately about			
<b>IMAGINE</b>			
Design a unique solution for the problem			
<b>DO</b>			
Implement multiple solutions in order to achieve the pre-decided solution to the problem			
<b>SHARE</b>			
Includes the angle of recognition, sustainability, long term impact and overall change in the stakeholders			

Transcripts from each case study were then analysed by two researchers in consensus to highlight relevant data points that were assigned to the appropriate cell of the framework. The data was analysed under the same themes that were used for the sampling of projects. The DFC based model promotes the development of transferrable 21<sup>st</sup> century skills and a sustainable change in society. It builds innovation and leadership leading to a positive change in attitude of students as well as parents and teachers. The data points were therefore simultaneously assigned to these themes under which the DFC model operates. Using the themes and the analysis framework, a narrative for each case study was developed.

Transcript Excerpt from Chettinad Vidya Mandir Focussed Group Discussion

Student: First we thought of choosing water as our problem but connecting all 5 rivers takes a lot of time and also it needs government support..you know our government ..it'll take some time to bring that and make it working..and also we thought of addressing talented people..the government children they are very talented actually..but they do not have the platform to express their talents..so we were considering this too..and then later we read article about a girl was killed in bihar..she was open defecating..and also she was raped and killed ..it was really serious problem and it was one which we took..so we took this problem..

The highlighted section was classified as an Input for Feel with outcome Empathy under the theme of Likely to Change Attitude

## 9. Limitations of Study

The sample for the research was well distributed across the state but it was not representative of the schools which did not win a DFC Award. The research triangulates information by seeking answers for a particular data point from one or multiple respondents. However, since the sample was selected from projects ranging across 2009-14 a potential drop in accuracy of a response could be attributed to the recall value of the project for the participant. Owing to time constraints, the Torrance Creativity Test was administered as a single item test in all schools. Grade 7 and 8 emerged as the preferred grades for participation across multiple schools. All government middle schools end at grade 8 post which students seek enrolment in high school and hence, research was conducted only with the participants who were available for the study. Since this is a qualitative study we can't attribute causality to the outcomes.

## 10. Annexure 1

**Table 7.** *List of projects selected for in-depth evaluation and scores on grading parameters defined in methodology.*

School Name	School Type	Title	Category	DFC Award	Leadership	Resistance	Impact of Information	Impact on Attitude	Innovation	Impact	Total (18)
Panchayat Union Middle School, Soolapuram	Gov	Eradicate Illiteracy	Social	Top 75	2.67	1.67	2.17	2.5	2.17	2.33	13.5
Panchayat Union Middle School, Chozhanganatham	Gov	Reuse and Reduce	Environment	Top 75	2.5	1.5	3	2.5	3	2.5	15
Panchayat Union Middle School, Thandalai	Gov	Speed Breaker	Environment	Top 75	3	1	3	1.25	1.5	3	12.75
Panchayat Union Middle School, Asthinapuram	Gov	Eye Donation	Health	None							
Panchayat Union Middle School, Bettatti	Gov	Say No To Drinks	Social	Top 75	2.25	2	2	2.5	2	2.5	13.25
Panchayat Union Middle School, Achimangalam	Gov	Eco Wall	Environment	Disney Innovation	2.25	0.75	2	2	2.75	2.5	12.25
Panchayat Union Middle School, Kalachery	Gov	Stop Committing Suicide	Social	Top 20	1	2	1	2.5	2.5	2.5	11.5
Chettinad Vidya Mandir	Pvt	Defecation Free Village	Health	Top 20	2.75	3	3	2.25	3	2.75	16.75
Shree Niketan Pathasala	Pvt	Freedom from Child Abuse	Social	Top 20	2	2	2.5	2.75	2	1.75	13.5
Kaligi Ranganathan Montford School	Pvt	Stop Begging, Start Working	Social	Top 20	3	1.5	2.25	2	2	2	12.75

**Table 8.** *Details of village level and demographic data.*

School Name	Year	Project Description	DFC Association (Years)	Village/ Town	Village / Town Population	Number of Teachers (2013-2014)	Enrolment (2013-2014)
Panchayat Union Middle School, Soolapuram	2014	Eradicate Illiteracy	2	Silamalai	8236	9	196
Panchayat Union Primary School, Chozhanganatham	2014	Reuse and Reduce	1	Swamimalai	7289	2	38
Panchayat Union Middle School, Thandalai	2014	Speed Breaker	1	Thandalai	3854	9	114
Panchayat Union Middle School, Asthinapuram	2011	Eye Donation	2	Asthinapuram	490	8	168
Panchayat Union Middle School, Bettatti	2014	Say No To Drinks	1	Yedapalli	5232	6	56
Panchayat Union Middle School, Achimangalam	2014	Eco Wall	1	Achimangalam, Thanthoni	53854	6	88
Panchayat Union Middle School, Kalachery West	2014	Stop Committing Suicide	2	Kalachery	3500	7	140
Chettinad Vidya Mandir School	2014	Defecation Free Village	6	Karur	1064493	73	1045
Shree Niketan Patasala	2013	Freedom from Child Abuse	4	Vedanginallur, (Thirupachur Post)	12353	60	1182
Kaligi Ranganathan Montford School	2014	Stop Begging, Start Working	5	Chennai		135	2850

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