Carnegie Mellon University

# Teach India

## Technology for International Development

ASHLEY CASTILLO

YIWEN JIA

PREETHI RAJU

## Executive Summary

For this project, we contacted an Aided Middle School located in South India to interview a teacher at the school to determine problems related specifically to the lack of students' computer literacy and knowledge. We formed a problem statement based on information we received through interviews with the school and determined an implementation solution based on a SWOT analysis we conducted. The implementation plan includes specific steps that we suggest the school to take as well as an example of a specific technology that the school can implement, provided that the school determines the technology is useful and can be applied. In our paper, we also include a literature review.

## Problem Statement

In Udhavi Padum Nadunidi Palli, an Aided Middle School located in the town of Thirukodikaval in the state of Tamil Nadu in Southern India, students are exposed to a variety of activities-based learning practices to help them develop their cognitive abilities. These practices include activities-based learning practices such as group cards, storyboards, and videocassettes, including the minimal use of computers. In today's educational environment, it is highly encouraged to incorporate technology into the secondary education curriculum to improve children's learning opportunities, particularly in technical subjects such as science and mathematics. Although the activities-based learning practices mentioned above are effective, students need more opportunities to develop their proficiency in science and mathematics.

## Solution Statement

Our team is using a consultative approach to assess the school. Since travel limitations prevent us from personally visiting the school and studying the processes, students, and teachers, we are consulting from a distance. We have close ties to the school based on our contact through one of the team member's close relatives, who teaches at the school and can provide detailed accounts of her experiences and opinions. Based on our interviews, we conducted a SWOT analysis of the school to assess its strengths and weaknesses, as well as the opportunities that it can improve upon, followed by potential threats. Within opportunities, we address a number of tools and projects that the school can use to improve their Information and Communication Technologies (ICT). Our outcome will be a general plan for the school on how it can implement the opportunities that we provide and a more detailed example plan on how it can implement one specific technology.

## School Background

Udhavi Padum Nadunidi Palli is an Aided Middle School located in the town of Thirukodikaval in the state of Tamil Nadu in South India. The school enrolls primary (grades 1-5) and upper primary (grades 6-8) students, with a total enrollment of 300 – approximately 40 students per class. Most of the parents are farmers and the approximate yearly income per family is 1 Lakh Rupees (U.S. $2,250). Although performing labor is not their primary role, children often help their families with farming after school or during holidays. They are often sent on errands before school, usually "strolling into class" at approximately 10am and leaving around 5pm.

The general facilities of the school include a cement perimeter with a courtyard located in the center. The ceilings of the school are composed of dried coconut leaves – leaks are common during the monsoon season and class is often cancelled due to heavy rain. There are eight classrooms, which each having three walls and an entrance facing the

inside of the courtyard. Each room comes equipped with a blackboard, table, and chair for the teacher. The students sit on the floor and are given their own slate, a personal chalkboard on which to write answers.

The term “Aided School” indicates that the school is managed privately but receives large amounts of grants and funding from the government. The teachers are hired and salaried by the Education Service Commission rather than by the owners of the school. Although aided schools should be more independent than public schools in India, the teachers still fight for equal pay, making the schools very similar to their public counterparts. Many of the newly implemented Westernized education practices in Udhavi Padum Nadunidi Palli are a reflection of recent efforts in the aided schools.

## SWOT Analysis

### STRENGTHS

The school has specific strengths that reflect upon its quality of education. Specifically, most teachers are very dedicated to their students and to their quality of education. This alone, is a great strength of any educational institution, because by virtues of being dedicated to their students, teachers elevate their own commitment to teaching.

When teachers are dedicated, they spend more time on preparing course curriculum and teaching materials, determining the most relevant subjects to each, encouraging students to ask questions, and answering questions to the best degree that they can. Through these actions, teachers at the Aided Middle School guarantee a better learning experience for students, as they learn better, are encouraged to think critically about various topics, and are encouraged to think for themselves.

The school also has great strengths in terms of its faculty and students. The Headmaster, Mr. Mohan, was a recipient of the Radha Krishnan Award for Best Teacher, a very prestigious award in the state of Tamil Nadu. He has focused on improving the quality of the school’s teaching by enforcing training on the teachers. Furthermore, an eighth grader collected an accolade of five thousand dollars at a state-level competition through his research on soil and agriculture. These awards prove the quality of the school’s faculty and students.

Another advantage is that the school readily incorporates learning activities with group cards and storyboards. For the group cards, students are placed into groups based on the card categories and learn the vocabulary at each level. Teachers teach and test students on the vocabulary, which the student writes on his/her own chalkboard. If the student does not master a card’s vocabulary, he/she cannot move on to the next word. This guarantees that each student masters the material before going forward, which makes for an effective learning process. Another great phenomenon is that student work together – those who finished learning the cards take the time to help their struggling peers. This not only reinforces learning but also fosters teamwork and collaboration amongst the students

Beyond the group cards, the school incorporates storyboards as well as a variety of other activities to teach students. These include mind maps and abacus beads for mathematics. According to students, activities-based learning provides a very fun way to learn.

**WEAKNESSES**

The school, although known as one of the better schools in the region, is still not considered a top school in national rankings. One major weakness is that some teachers are better than others. The top teachers in the country naturally teach at private schools, in which they earn top salaries. Teachers at rural schools are often hit or miss – some truly care about their students and others are content to simply pass their students on to other teachers, even if the students have not learned the material well enough to pass the course.

The students' lack of motivation and focus is also a weakness, as students are not naturally motivated to work hard for two primary reasons. First, the standard learning style used in the classroom does not suit the children. Some learn better visually whereas others learn better audibly, and the standard style does not take both styles into account both favors auditory learners. Second, while the children do not often skip school, they are not overly interested either. They rarely come to class on time because they must first finish their errands, usually arriving to school around 10am. Parents interested in providing their children a better education generally send their children to a private school that is further away. Since there are no local schools for children after the eighth grade, they must attend school in the city in order to continue their education.

The children lack motivation due to their family circumstances and differences in learning style, the combination creating a lack of focus in the classroom. This also connects back to the issue of inadequate teachers since their own lack of motivation greatly affects the learning potential of students. More motivated instructors try to focus specifically on each student and are more accommodating to different learning styles, as well as attempting to set a more strict starting time for class.

Although the school provides some exposure to technology, with various computers situated throughout the school, the lack of educational software on the computers is a great weakness. The students mostly use the computers to learn how to operate the mouse and keyboard and draw on the computers, which is the extent of their exposure. Thus, the children often develop thinking that the computer is only a drawing tool, not realizing its full potential and value of connecting them to the outside world.

Lastly, English is not a focus in this school and there is little effort to develop English-language knowledge in students. Since understanding English is an important component in Indian society, as those who are proficient in the language have better job prospects, it is important that students learn English starting from an early age. The students can have a better basis on which to seek out opportunities for themselves. After eighth grade, with their English skills, they can pursue opportunities beyond farming.

**OPPORTUNITIES**

Since Udhavi Padum Nadunidi Palli is an aided school, it is easier for the government to fund the school's proposal for technology for educational purposes. Furthermore, since it is one of the top schools in the state of Tamil Nadu, the government will be more motivated to provide funding.

- Tutored Video Instruction (TVI) for Teacher's Training: Teachers in Udhavi Padum Nadunidi Palli find it difficult to travel to the nearest town of Kumbakonam to attend trainings. Using TVI motivates them to attend trainings that can be monumental to improving their quality of teaching. It will also help them develop relations with more educated trainers.

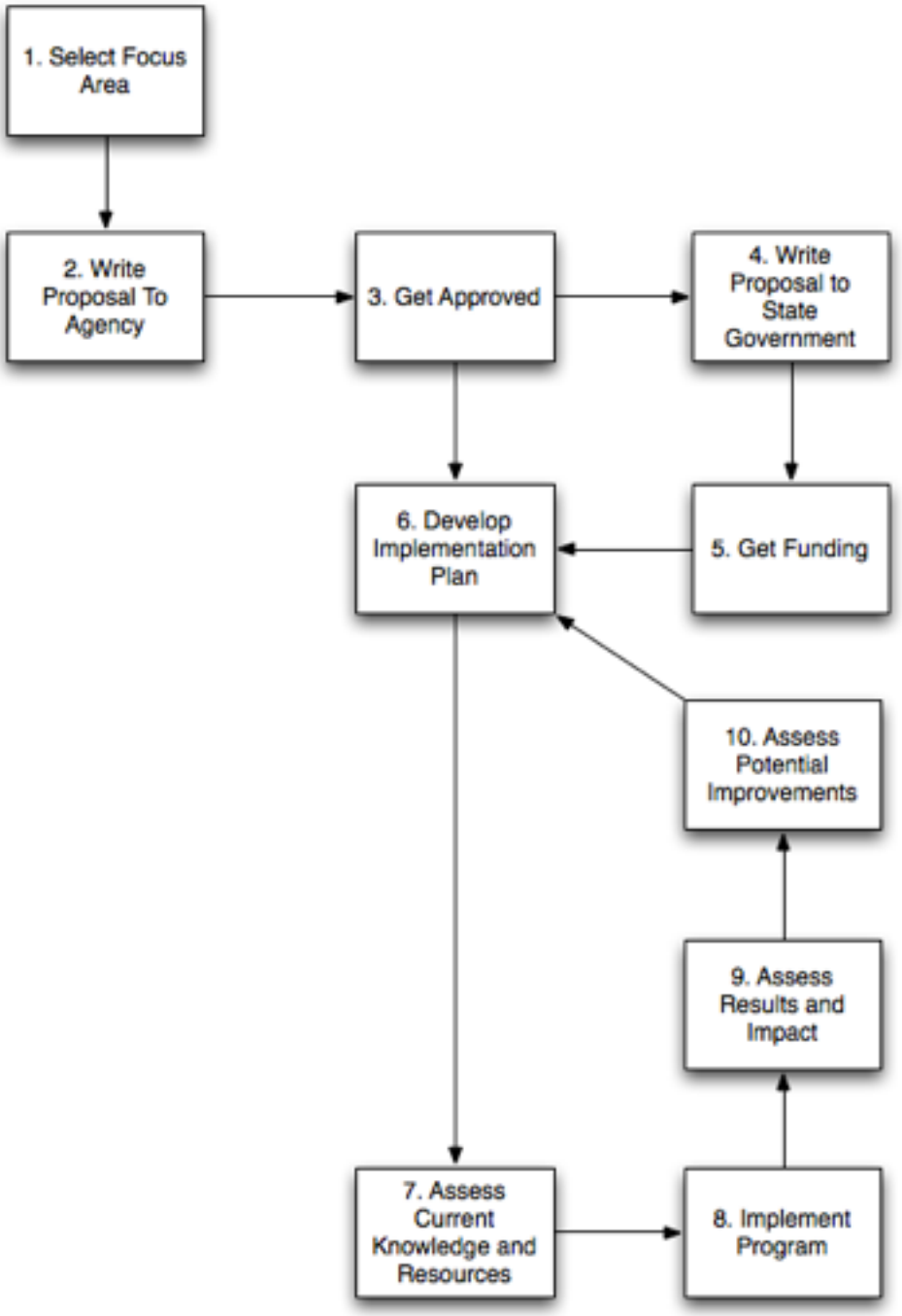
- Parent-Teacher Association: The teachers and parents of students have a close relationship with each other due to their close proximity. However, it is important for parents to form a community centered on the schools to develop their ownership and increase their stake in their children's education.
- One Laptop Per Child (OLPC): Since the school is relatively small, it will be relatively inexpensive to implement the One Laptop Per Child initiative as an educational tool with government funding. As students are already familiar with Western practices, OLPC will increase their collaborative learning skills. It can also teach them the full potential of computers.
- PlayPower: Since the average yearly income of families in the region is under $3,000, it will be difficult for parents to even afford a highly subsidized OLPC laptop. PlayPower can be a perfect alternative – it provides $10 computers built on 8-bit microchips, with learning games such as Karaoke for Reading and Mavis Beacon Teachers Typing. The technology is built on open source software so it is continuously refined. Providing PlayPower computers to students can motivate them to learn more about computing. (PlayPower)
- MILLEE (Mobile and Immersive Learning for Literacy in Emerging Economies): MILLEE provides literacy improvement games on cheap Nokia phones. (Kam)
- Mischief & Distance Learning: Udhavi Padum Nadunidi Palli is run on a tenure system. Teachers are rarely fired once hired but they are not necessarily the most experienced in their subjects. Mischief is a system that allows remote teachers to teach a classroom of students through a projector. Each student is provided a mouse, and is able to interact with each other as well as the teacher. This system is beneficial to Udhavi Padum Nadunidi Palli since the quality of education will improve, and teachers more experienced in the topic can teach students remotely. (Moraveji)

**THREATS**

There are threats to the school that must be taken into consideration in evaluating its current situation. First of all, the school is dependent upon government funding for much of its operations and maintenance. If this funding was suddenly cut, then it is entirely possible that the school would cease to operate due to the heavy costs of running the school. The school must seek additional ways of self-funding so that it does not have to rely on outside sources. This will prevent major issues in case funding is cut and ensures that the school will keep running.

In addition, another threat is the number of unmotivated students. Even though there is only a handful, teaching students who do not care about their education is very difficult in and of itself. This is an increasingly complex issue because the school is located in a rural village, in which farming is the main industry for the local families. For students who get caught up early on in the rural way of life and see farming as their future, education may not be one of their top priorities. If this is the case, then one threat to the school is that students are unmotivated and do not care about their education and do not take the effort to learn. Thus, one goal that the school should heavily focus on is finding ways for students to witness the relevance of education on their development and for students to see how education can improve their career advancement opportunities.

**IMPLEMENTATION PLAN**



**1. Select Focus Area**

The school should decide in what area would they like to focus first and seek improvements. It is infeasible and unrealistic to think that the school can implement several different technology tools at one time; it would be too time consuming and confusing to run several plans at once, especially for such a strapped school. The school should focus on one area they would like to improve in firstly and then use that experience and apply it to other focus area in the future to improve.

**2. Write Proposal to Agency**

After selecting their focus area, the school needs to research all the different tools that can help them improve within that focus area. With the multitude of tools available, the schools will have lots of options to choose from; they need to decide which tool they feel would best suit them. After selecting a tool, they will contact the agency and propose working with them to implement the tool.

**3. Get Approved**

Once the agency has agreed to work with the school, then the agency can initiate the beginning steps of developing the implementation plan by getting to know the school, the students and the teachers and seeing how their tool could effectively help the school.

**4. Write Proposal to State Government**

The school can now write a proposal to the government for funding after securing the approval of the agency. In the proposal, they would be able to include details about the agency, the amount of funding they would need and how it would benefit the students. They could also include other projects the agency has worked with and the positive outcomes of those projects.

**5. Get Funding**

With government approval in hand from the proposal, the school can now get funding for their project and begin working with the agency to buy the supplies they need.

**6. Develop Implementation Plan**

With both the government and the agency on board, the school can now begin working on developing a more detailed implementation plan based on their time and resource constraints. They'll want to include the duration of the plan, work in assessment and evaluation periods of the students, teachers, and the program in general and training for the teacher prior to the classroom implementation. While developing the plan, they should involve the teachers to gain faculty buy-in and also make the parents aware of what is going on and get their buy-in and approval for their child's involvement.

**7. Assess Current Knowledge and Resources**

Before the children are involved in the pilot program, their current knowledge in the focus area in which the school is trying to improve should be assessed to act as a baseline. This step should occur simultaneously as developing the implementation plan, as this step has a long duration. This assessment should occur at least a year before the children are put in the pilot program and should ideally assess the children at multiple points throughout the year so we can track how much they improved in that year without any additional tools implemented.

**8. Implement Program**

Once the plan has been completed and all assessments have been done, the school should implement their plan and start the pilot program, being careful to follow their plan but edit it as necessary when things come up.

**9. Assess Results and Impact**

During set times during the implementation as dictated by the plan, the school should assess how well the implementation is working. For example, they could assess the students' knowledge at every quarter in regular intervals to evaluate if the students have learned more with the new tool as compared to the previous year, when they did not have access to this tool. They should also assess the overall impact of the program and decide if they want to continue with the program, scale larger with the program, or eliminate the program if they discover its not working.

**10. Assess Potential Improvements**

The school should assess what improvements can be made. Then the school should make the necessary changes to areas that need improvements in order to make the tool apart of the regular curriculum.

## PlayPower as a Platform

**Different Sides:**

1. PlayPower, as platform provider and sponsor
2. Content developers
3. Content consumers (children from low-income backgrounds)

**Effects:**

1. Same-side effects: The more users that adopt the technology, the more other users will also join the platform. Since there are multi-player games on the PlayPower, this technology attracts children
2. Cross-side effects: The more developers that join the platform and develop more games, the more that PlayPower's users will have the incentive to join and adopt the technology.

**Open System -** Open source code allows developers to freely develop games for PlayPower

**Technology:**

1. 8-bit system
2. 6502 processor
3. Keyboard
4. Slot for game cartridges
5. Mouse
6. Two game

## PlayPower: A Sample Implementation

This implementation extends the process to describe how it would specifically apply to PlayPower.

1. **Decide a Focus**

    - The school is already known for its strength in Science and Math and the use of PlayPower will augment this interest by using the technology as a teaching mechanism to improve science and math knowledge.

2. **Write a proposal to an agency**

    - As Udhavi Padum Nadunidi Palli is know as one of the top aide schools in the area, and one of its 8th graders even won a science research award it should be a prime candidate as a school in which PlayPower should invest. Furthermore the fact that the Headmaster won the Radha Krishnan teaching award demonstrates the strong leadership that the school is under as he will make sure that the rest of the teachers are motivated. Even though the school consists of very poor students, it already gives them minimal access to computers. However, it is important to expose them at a younger age. Another advantage of this particular school is the fact that the school is aided but not government owned, thus the government will likely subsidize the cost of the PlayPower computers but will not interfere in the implementation of the project.

3. **Get approval from PlayPower**

4. **Write Proposal to Government**

    - The school and the agency should compile a proposal detailing the overall cost of the project, cost breakdown and duration for which they are applying for funding. They should mention the strengths of this particular aided school as well the benefits of the project. PlayPower will play to the advantage of Udhavi Padum Nadunidi Palli as not only will it improve the science and math skills that they already focus on, it will also improve the students' knowledge of technology. Compared to alternatives such as One Laptop Per Child (OLPC) the cost of this device is only $10 per child and the government funding will be used for the cost of the device, training for teachers, overall implementation assessments, and technical support. As a result of this project, the school will be able to participate in more state and nation wide competitions and accelerate its students beyond upper primary school to high school.

5. **Receive funding**

6. **Implementation Plan**

    - Pilot program will focus on 1st, 3rd, and 5th grade students over the course of a school year.
    - Assess the initial knowledge of students via a written test on all the subjects they take.
    - Invite all parents to demonstrate PlayPower, include project detail, and gain their buy-in so that the school can build a community around PlayPower.
    - Provide training or Tutored Video Instruction on the use of PlayPower to teachers and ensure that they create a new curriculum that integrates PlayPower into their classroom.
    - Give kids PlayPower to play in class and at home
        - Students play games, primarily focused on Science and Math:

1. Karaoke Sing Along,
2. Robot Odyssey (Logic game)
3. Number Munchers
4. Sun and Earth (Science Game)

- Assess student development every quarter of the year.
- Bring together parents every quarter to inform them of their children's' developments.
- The following year, include the students in the previous set and also scale the implementation.

7. **Assess the initial knowledge of students via a written test on all the subjects they take.**
8. **Implement Program and give students PlayPower**
9. **Assess results and impact**
    - At the end of the year, perform a large-scale analysis of student improvement with regard to age range and subject matter.
10. **Assess potential improvements**
    - Based on the analysis, refine the games and other implementation processes and develop an implementation plan for the next year to make PlayPower a regular part of the curriculum.

## Comparison to OLPC's Plan

OLPC's Suggested Rollout Strategy is as follows:

**1. Pre-rollout: learning vision**

- Learn the school's personal mission for learning and how laptops will aid or become apart of that mission.

**2. Peer trainers and laptop literacy**

- Appoint peer trainers and coach them through initial laptop literacy so that they can help with their lessons.

**3. Play/ informal learning**

- After set mini-lessons, the students should be allowed time to just play on the laptop and reinforce what they've already learned.

**4. Formal/ planned learning**

- Formal lesson plans should be taught so that the laptops can be incorporated into their everyday learning.

**5. iLearn personalized learning draft plan**

- Each student and classroom will have their own personalized learning plan that incorporates the laptop.

Overall, OLPC's plan is not that different from ours. We have encapsulated the same key ideas, such as learning about the school prior to launching the program, which was our Step 6: Develop Implementation Plan, and incorporating the solution into a regular part of the curriculum within our Step 10: Assess Potential Improvements. We left the formal and informal learning plans up to the school to decide upon and to set in their development plan. Peer trainers would likely not be valuable for many of the tools for our school because none of the students have the basis to be able to learn to use the computer quickly enough to serve as a peer trainer. They are all at the same level with no real computer skills. It would be best, especially initially, for them all to receive the same training. Afterwards, if some of them show more aptitude for computer skills, they can possibly serve as peer trainers in the future for other tools.

## How can this process be replicated?

The Process for Implementing Educational Technology Solution has been designed to be general enough for it to be scalable to other schools. As it is a process based on the school's initiative to reach out to both government and agencies, its replication would depend on strong leadership and the ability of its leadership to find technological resources. Even though the overall plan is general, the implementation plan must cater to the needs of a particular school. As each school is unique, it is important to determine the focus and strengths of each school, as well as the economic and social conditions of the students and parents so that the technology can aid the students within their context.

On a state level, the concept of replicating the implementation at one school to another is an issue in itself. In India, each state is a very strong unit itself, and most states have their own languages. Some states, such as Kerala have almost universal enrollment and almost 100% retention at the primary and upper primary level, but other states such as Uttar Pradesh have very low enrollments at both levels. As a result it is important for the process to include not only a buy-in from the federal government but also to change the outlook on all of states on the issue of universal education and improvement in their own educational systems. The repetition of this process is also reliant on the cooperation of the government with private agencies. If enough schools put through such a proposal to the government, it would be beneficial for the Government of India to document all the educational technology solutions across the country and formalize the process by which schools can apply. If this process is replicated as an E-Government initiative, it's future could be immense and it could influence the self-serving state governments to improve its schools.

## Literature Review

**Private and Public Schooling: The Indian Experience**

This article focused on the various types of schooling prevalent in India as well as the various issues regarding 'recognized' and 'unrecognized' schools. The current state of the Indian education system is very inaccurate because the government simply does not recognize some schools due to technicalities. The article provided us details on the differences between aided, unaided, government and private schools as well as the relationship between state and central governments. After reading this article, we realized that the state government in India is much more of a cohesive unit than we had expected and that any plan we would develop would have to have the buy-in of the state government first.

**MIT India Technology Education Program**

This article provides information on a MIT initiative called the India Technology Education Program to bring a group of MIT students to a high school in India with goal to connect the high school with the Internet. We used this article to study how another group at another institution implemented a technology initiative to also increase computer usage for students in India and about the factors that contributed to their efforts to evaluate the factors that will affect our own implementation plan.

**India and the knowledge economy: Leveraging Strengths and opportunities**

This presentation provides information on India's current economy and steps to implement ICTs in India, assessing their strengths and weaknesses and how they can improve the economy and education system. This presentation provided insightful advice with charts and numbers detailing India's economic situation and had its own SWOT analysis on the implementation of ICTs. This article helped us develop our idea of applying ICT to a secondary institution and the strengths and weaknesses, as well as opportunities and threats.

**Usage Models of Classroom Computing in Developing Regions**

This article examines low-cost computing projects for education in developing regions. !Because our project is focused on developing an education initiative in a rural school in India, this resource will be helpful for us in terms of low-cost since Indian education system is limited in its funding and helpful because this article can contribute to our analysis of how computing projects for education need to be implemented with a low-budget in mind.

**"My Child will be Respected": Parental Perspectives on Computers in Rural India**

This article with parents in rural India their thoughts towards their children's schooling regarding aspiration, quality of schooling, and perception of computers more generally. !This content is important because throughout our process of developing an education initiative for students in India, we must consider the attitudes and beliefs of their parents in order to be successful, since parents have a large amount of control over their children's education.

**The Social Complexities of User-Centered Design in ICTD: Experiences from Four Schools in India's Villages and Slums**

This article examines the social complexities of designing systems for specific users, particularly uses in schools in India's villages and slums. !This content can help us evaluate how to develop systems particularly geared towards students from a specific background or with limited/specific experiences. !By taking this into account, only then will we be able to deliver a successful project. !We will use this article to help us evaluate and determine how user participation and research methods should be used to implement user-centered design.

**On Defining Universalization of Upper Primary Education**

This article centers on the idea of Universalization of Elementary Education (UEE) for students between 11 to 14 years of age. It is a newly developed constitutional investment in India that seeks to enroll and retail not only primary age students, but upper primary students also. We learned that states in India differ radically in their ability to enroll and retain students in school. We were able to use the challenges described in this article, regarding school facilities, teacher salaries, learning conditions, and teacher training to facilitate our user research in addition to the interview we conducted.

## Conclusion

Based on the SWOT analysis, we have created a realistic implementation plan for Udhavi Padum Nadunidi Palli school to use. Specifically by providing an analysis using PlayPower, we hope to provide the school with real advice on steps it can take to improve the educational opportunities for students. We have passed on this information to the school in the hopes that it will seriously consider the plan and implement the opportunities that can reap great benefits for both teachers and students.

## Bibliography

Kam, Matthew. "The Social Complexities of User-Centered Design in ICTD: Experiences from Four Schools in India's Villages and Slums."IEEExplore. N.p., n.d. Web. 9 Dec. 2010. < http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4937416>.

Kam, Matthew. "millee basics."SCHOOL OF COMPUTER SCIENCE, Carnegie Mellon. N.p., n.d. Web. 9 Dec. 2010. <http://www.cs.cmu.edu/~mattkam/millee/home.html>

"PLAYPOWER | Learning Games for Radically Affordable Computers." PLAYPOWER | Learning Games for Radically Affordable Computers. N.p., n.d. Web. 9 Dec. 2010. <http://playpower.org/>.

Moraveji, Neema. "Mischief: Supporting Remote Teaching in Developing Regions." CHI 2008 Proceedings. N.p., n.d. Web. 9 Dec. 2010. <http://delivery.acm.org/10.1145/1360000/1357114/p353-moraveji.pdf?key1=1357114&key2=0862881921&coll=DL&dl=ACM&CFID=1130551&CFTOKEN=48064099>.

"MIT India Technology Education Program ." MIT. N.p., n.d. Web. 9 Dec. 2010. <http://web.mit.edu/itep/www/>

"Usage Models of Classroom Computing in Developing Regions." IEEExplore. N.p., n.d. Web. 7 Dec. 2010. <ieeexplore.ieee.org/stamp/stamp.jsp? tp=&arnumber=4937401>.

N.V.Varghese, Arun C. Mehta, National Institute of Educational Planning, Administration, New Delhi (INDIA), 1998, and Processed. "Upper Primary Education in India: An Analysis of School Facilities and Costs." Education for all in India . N.p., n.d. Web. 9 Dec. 2010. <http://www.educationforallinindia.com/page12.html>.

"Teacher Guide." One Laptop per Child (OLPC), a low-cost, connected laptop for the world's children's education. N.p., n.d. Web. 9 Dec. 2010. <www.olpcnews.com/files/OLPC_Teacher_Guide.pdf>.

Gandhi Kingdon, Geeta. "Private and public schooling: The Indian experience."University of Oxford. N.p., n.d. Web. 8 Dec. 2010. <www.dise.in/Downloads/Use%2

"Education Guarantee Scheme by Government of Madhya Pradesh India ." Fundaschool - Elementary School of Madhya Pradesh. N.p., n.d. Web. 9 Dec. 2010. <http://www.fundaschool.org/pta.html>.

"One Laptop per Child (OLPC), a low-cost, connected laptop for the world's children's education." One Laptop per Child (OLPC), a low-cost, connected laptop for the world's children's education. N.p., n.d. Web. 9 Dec. 2010. <http://laptop.org/en/>.

# Appendix

### A. INTERVIEW WITH PREETHI'S AUNT KUTTY RAMAMOORTHY

*** Interview was conducted in a different language and this is an excerpt**

1. Basic questions about the school - name, where it is, what grade she teaches, how many kids?

- Udhavi Padum Nadunidi Palli (Aided Middle School)

- Government gives money to management of school but not government owned.

- Location: Thirukodikaval, Tamil Nadu in Tanjure District

- 4th and 8th grade Math and English

- 300 students total, 40 students in 1 class.

- 10am-5pm - students come in pretty late, generally not til 10

2. Questions about the students - what is their family situation like, do they work and go to school, do they skip school a lot?

- Mostly farmers and agriculture

- Child labor isn't fulltime but kids help out with family on holidays or after school.

- Around 1 lak yearly income per family.

3. Questions about technology - do the students have any exposure to technology, has anyone tried to implement one laptop per child or anything like that before, is anyone in the town familiar with technology, how do the kids parents feel about technology (gender differences maybe?

*1-4th Grade*

- Use Group Cards - Each subject has its own symbol Ex. Flowers =

english, Animals = Tamil, Lamps = Math etc.

- Each set of cards has info on the back. The students get in the groups

based on cards and learn at each level. Each kid has own blackboard and

chalk. The teachers don't write, but teach the different groups. If you

haven't learned what's on the card you don't move on. Kids who have finished

learning the card info help others.

- Teachers aren't allowed to write on the blackboard.

- Called ABL - Activities Based Learning.

*6-8th Grade*

- Activities Learning Method (ALM)

- Mind Map - EX. Sun - all the things that go along with it like

exposure, different names, temperature calculations. Like storyboarding.

- Math - use kidbox - use abbacus type beads to practice.

- Some are exposed to computers and video cassettes provided by the

government. But only learn on computer how to operate mouse and draw things

on computer.

- Regarding the parents: "They don't know anything. They just go to the

farms." The kids don't come to the school on time, only stroll in around 10.

4. questions for SWOT - is the school really good at anything? is the school actively trying to improve any one area (like are they already trying to implement technology?) are there other schools in the area? do the children like going to school or do they skip a lot?

- Radha Krishnan award - Best teacher award for principal.

- Science - An 8th grade student did research on soil and won Rs. 5000

at a competition.

- Do competitions for speech, sports, drawing.

- Schools every 1 mile but best in the area.