YES International Summer Service Program Design for High School Students using Lean Startup

Victor Udoewa
Deputy Director, 18F Learn
Washington, DC 20006
victor.udoewa@gsa.gov

Abstract - YES Prep Public Schools is a group of public charter schools focused on serving students from low-income communities across Houston, Texas. One requirement of all YES students is summer school between grades 5 through 10 and two mandatory summer internships between grades 10 and 12. Due to financial concerns many students who desire to do an international internship cannot afford any available programs offering such internships. In 2005, we introduced a new, internal, international summer service program for YES high school students to satisfy our summer internship requirement. This paper focuses on the process and results of designing, implementing, and modifying the program using the Lean Startup methodology through its first few years before it won a national award for its character-building work.

Index Terms - Service-learning, Secondary education, International and community development, Lean Startup

INTRODUCTION

YES Prep Public Schools is a group of public charter schools in Houston, Texas. Founded in 1998 with one school in Southeast Houston, it has grown to 16 6th-12th grade schools serving 11,600 students across Houston\(^1\). YES specifically focuses on students from low-income communities and works to provide equal access to excellent education for all students of Houston. Unlike KIPP, another public charter school program started in Houston, YES has decided not to start schools nationally across the country until it first can reach that goal in Houston. Even though it is local to Houston, like KIPP it has achieved national fame as an excellent, trendsetting public charter school district\(^2\).

YES has several components that form its model for each school\(^3\). First, YES utilizes an extended school day compared to the traditional US school day that ends between 2 and 3 PM. At YES, students attend school for the entire day, roughly through 5 PM. Second, YES students are required to stay after school for tutorials until 6 PM, for any subject in which they have a grade lower than a B. Third, YES has an extended school year. That means that between grades 5 and 10, students attend mandatory summer school. And between grades 10 and 12 students must fulfill two, high school, summer internships. Fourth, there is an extended school week with mandatory Saturday School which can be used for service work or extended tutorials.
The next set of components of the YES model relate to processes. First, all YES teachers are given a mobile phone, and YES students are not allowed to come to class the next day with their homework incomplete. When a student is unable to complete a portion of the assignment, the student must call the teacher for help. The student is not allowed to attend class the next day with incomplete work if the teacher has not been called. Second, YES students study in a small integrated school with roughly 100 students per grade.

The last set of components of the YES model deal with student enrichment and expectations. First, during the summer before school starts, all students sign an annual, three-party agreement between a YES teacher representing the school, the parents, and themselves. At any point when a problem arises, YES can point to the commitments made to remind and ensure that both students and parents do their part to ensure student achievement. Second, all students receive college counseling from the 6th grade. As part of that counseling, all students take week-long spring trips to visit colleges and universities in a region of the United States. Third, students attend a district-wide Signing Day, in which all students watch and applaud YES Prep seniors from all schools stand at the podium one by one and announce what college or university they will attend by holding up a university shirt or jersey, similar to the NBA or NFL draft. Third, one of the defining points of the YES model is that all students are required to gain acceptance into a 4-year college or university in order to graduate. If a student does not, then a student must remain at school at least another semester until acceptance has been gained at some college or university. Last, the name YES stands for “Youth Engaged in Service,” and YES prioritizes service and service-learning. All students must complete service hours each month in order to graduate.

Each year, there are YES high school students who wish to extend the local and regional service that is required throughout the year, to international service by completing the high school, summer internship requirement in another country. However, given the communities from where YES student hail, the fees for high school, international, summer service programs is prohibitive. Because of this, the author wanted to create an internal, home-grown, YES program that would enable YES students to experience international service-learning during the summer without prohibitive costs.

During the 2005-2006 academic year, the author traveled to El Salvador for a week during the YES spring break in March 2006. He traveled there to understand what life was like for a friend serving as a Peace Corps Volunteer (PCV). However, his PCV friend was intrigued by the YES Prep Public School model, and invited the author to bring a group of students back to El Salvador during the summer of 2006 to do service work internationally.

The relationship with the PCV and the invitation provided an opportunity for the author to create a free program for YES students allowing them to experience life in another country, serve internationally, and fulfill the high school summer internship requirement at the same time. The difficulty was that the invitation came three quarters of the way into the school year. The fall semester was completed at the end of December, and spring break fell in the middle of the spring semester. There remained only a half-semester. If the PCV had invited the YES students in the summer of 2005 to visit in the summer of 2006, there would have been a year of preparation. Instead, when the PCV invitation came, there were only 9 weeks left in the school year.

The author moved forward despite the short time frame and began to design and implement a program to achieve the goal of providing a free, service-learning opportunity to YES students.
over the summer in another country. In order to accomplish this, among the many unanswered questions, the three largest questions had to be addressed first.

1. Would enough students be willing to go on such a trip?
2. Would parents allow their children to go on such a trip?
3. Would the school support such a trip?

The remainder of this paper will detail the methodology and process used to design this program as well as the results achieved.

**Methodology**

The most important factor in determining which research methodology to use is the research question. Initially, it may seem that due to the need to uncover qualitative findings such as the needs and desires of the YES students as well as the obstacles blocking those needs and desires, we would use Human-centered Design (HCD). However, in this specific case, the author is already and consistently, deeply immersed in the context and lives of the students, school, and parents, so their needs are much more clearly known by the author than an outsider who must use temporary contextual immersion as an ethnographic research tool.

This is not to say that qualitative research is useless. Rather it is not the area of deepest need from a design perspective. The main questions stated in the previous section, instead, focus on the value of such a program. They seek to find out if the program is valuable enough to a student that the student signs up. Is the program valuable enough to a parent that a parent would allow her or his child to go on the program? Is the program valuable enough to YES that YES will support it and allow teachers and students to prepare for overseas trips? These are questions about the value proposition. Qualitative research methods like interviews are bad at determining the value proposition of a proposed idea. People may tell you that they will use some product or service, but when the product or service is created, they actually do not use it. Instead, the best method of testing value propositions is with actual experiments. Therefore in this work, we employ a design experimental methodology which is part of a broader Design-based Implementation Research (DBIR) framework.

Specifically we chose the Lean Startup methodology. First, whereas HCD can be used to design anything, Lean Startup is more narrowly used to define a product or service. Sometimes it can be used to design a program as long as the program has some product or service offering. In other words, the program must offer some value that a potential customer can reject and decide not to commit time, money, or something else of value. Following that reasoning, it would not make sense to use Lean Startup to design an organization, for instance, because the employees or staff of the organization have no choice (other than to quit). In contrast, in the case of an international summer service program, students can decide not to sign up or apply; parents can decide not to allow their students to attend; and YES can decide not to allow teachers to take students on these trips.

Second, Lean Startup uniquely focuses on proposing and testing value proposition with potential clients or customers. This fits the questions we proposed. Additionally, Lean Startup
does include some qualitative discovery to understand the problem and need, though its array of discovery methods is not as robust as those detailed in HCD\textsuperscript{7,8}. However, since the author is immersed in the context of the students and familiar with their needs and desires as well as hopes and dreams and obstacles, this did not pose a problem.

**Learning Theories**

Instructional design is an oft misunderstood area of work. Though it is possible to work within a narrow band of instructional design such as solely designing e-learning, full or holistic instructional designers are polymathic in their experience and background. In a holistic instructional design process, a designer does not know the format that the education will take; the format is an outcome of the design process. An instructional designer is presented with a design challenge in which she must not just uncover the content that must be learned due to the demands of a task but also the format, duration, frequency, mode, and type of delivery. This means if she determines the best format is a video, she will engage in video design; if the best format is a game, then game design; a piece of software, then user experience design. Instructional designers can design any type of experience to create or foster learning, even an educational service or program.

In this work and paper, we engage in program and service design. We are designing an educational program which should foster learning. The challenge for our specific program is that there is not one set of learning objectives for all students in this extracurricular service-learning program. Instead, each student has individual, personal goals. The objective of the program is to enable and create an international service experience which gives students the opportunity and time to meet those personalized learning goals as well as learning additional, unplanned things. We then developed learning theories about what type of program would enable such learning.

In DBIR, learning theories both guide and emerge from the research and design. Therefore, even though we anticipated that learning theories would emerge through future cycles of the Lean Startup process, we initially theorized about what would make an effective educational program to enable student learning.

Broadly, our work aligned with general, researched learning theories. The proposed service trips are examples of educational experiences that include student-centered learning, project-based learning (PBL), experiential learning, socio-constructivism, and expeditionary learning\textsuperscript{17-20}. But still, within the context of our specific, proposed program, we had local learning theories that drove our work.

First, we theorized that students must know the language, at least conversationally or at an intermediate level. So much of a people group’s culture is embodied or contained in the language. According to anthropologists Edward Sapir and Benjamin Whorf, the way we think and view the world is determined or influenced by our language\textsuperscript{21}. Likewise we know that the relationship works the other way as well, that our language can often be determined or affected by the way we conceptualize and view the world. Therefore, in order for students to learn as much of the culture as possible, it was important that they be able to communicate with locals in the town they would visit. Moreover, since almost all personalized learning goals for the students...
involved interacting with people, it was truly imperative that the students be able to communicate verbally with local people in the country they were to visit.

Second, learning would be maximized if students had already mastered the project skills needed for their primary project. Since the time abroad would be short (1-2 months), it was important that students could start working immediately upon arrival without losing 1-2 weeks for training. One week could represent 25% of the time of their trip for a 1-month trip. By doing project preparation, the work would start sooner, and students could possibly finish working sooner or complete more work, allowing for more time learning about the culture through exploration.

Third, in addition to project preparation, relational preparation is paramount to maximize learning. As stated earlier, most of the learning would come through people interactions. So it would be helpful to arrive in the country and already know a few people. Even more, it would be helpful if the learning through people started before the trip began. Because of this, we designed the program to include pen-pal letter writing between student participants and two community children in the country to be visited--one the same age as the participant and a second child younger than the participant.

Fourth, we theorized that the perfect size of each trip teams was 10-12 students in order to achieve good group dynamics. This theory was not based on group dynamic research but simply by the experience of the author and other teachers in the school. For groups larger than 10-12 students, division into smaller subgroups naturally occurs as cliques form often leaving out some students. Any less than 10 students, and the learning between students is minimized as students miss out on relationships they could have had. A group the size of 10-12 allows the team to still feel and be close with all the other students and still hold the potential to avoid cliques.

Finally, the power of reflection in learning, especially service-learning and expeditionary learning, has been researched\(^2\). The question before us was the frequency of reflection. Due to the vast amount of novel experiences we believed the students would experience each day, we theorized that daily reflections would maximize learning and retention.

**Procedures and Methods**

A majority of people familiar with the Lean Startup methodology can quote the slogan describing the iterations within the methodology: Build-Measure-Learn (Figure I). However, in reality, there are steps that should be taken before starting the Build-Measure-Learn steps. We, therefore, used a more robust process with 6 steps (Figure II). This section will go through those 6 steps as we applied it to the design of an international, summer service program for high school students in the US.
FIGURE I
Lean Startup 3-step Loop

1. Identify clear hypotheses
   - Who are your target customers?
   - What pains do they have? What problems do they need to solve?
   - What solution could you create to meet their needs?

2. Conduct customer discovery
   - Get out of the building & talk to your customers/clients to figure out what they really want or need.

3. Formulate a value proposition.
   - Based on what you know about your customers, what product or service could you create that will alleviate their pains or create valuable gains for them?

4. BUILD a “minimum viable product” to test your value proposition.
   - Based on insights from customers, develop a product that has just the minimum number of features needed to test your key hypotheses.

5. Conduct rapid experiments & MEASURE results
   - Design tests to conduct with your customers to see if your hypotheses are accurate.
   - Define clear metrics to see if your hypotheses hold true.

6. LEARN: Use your data to develop new models
   - Use the data you’ve collected to refine the model for your program, product or service.
   - Decide to persevere with your existing model or “pivot” to a new one.

FIGURE II
Lean Startup Cycle

---

International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship
Vol. 12, No. 2, pp. 34-59, Fall 2017
ISSN 1555-9033
Hypotheses

Normally, in Lean Startup, we start with our hypotheses about who are potential customers are, what pains they experience, and the product or service idea that reduce or eliminate those pains. We do not create a Value Proposition Canvas (Figure III) until step 3 (Figure II). However, we created a Value Proposition Canvas in order to help illuminate hypotheses about our customers and our products (Figure IV).

From our Value Proposition Canvas, our primary and target customer are YES high school students, especially 10th - 11th grade students as 12th grade students may have pre-university or pre-college plans and 9th grade students may have plans to attend YES summer school. The major pain these students have is a lack of money to fulfill the summer internship requirement internationally. There are many programs offering international experiences, but they are too expensive for a majority of YES high school students. Interestingly, this pain fights against their desire to stay and be near family or the lack of experience outside their city. Yes, some students have never left the city, much less the state, or the country.

The solution we could create is YISS - the YES International Summer Service program, a home-grown program that allows students to participate in a free, international service-learning trip that counts for their internship requirement. In preparation for the trip, students would participate in language-learning, project training, and pen-pal writing meetings. During the trip students would work on a tangible, primary project most of the time, something they could touch or take a picture and show people what they created. They would also do numerous secondary project of any nature (tangible or intangible). All work would be done during a 5-day work week. Each weekend, students would sightsee around the country. Reflections would happen each night to capture and increase learning.

It is important to note, that though YES high school students were our primary and target customers, in order for the program to occur, parents and school leaders also had to find value in the program and give their permission. Their approval would allow students to travel and receive internship credit. For that reason, we created a Value Proposition Canvas for the parent segment (Figure V) as well as the school leadership segment (Figure VI). Creating each proposition highlights the tension between students wanting to travel abroad and parents wanting their children living close whether for college, trips, or when they are adults. Secondly, there also exists a tension between the assumption that the school will pay for the program and the lack of funds the school experiences in its work, requiring it to fundraise in addition to funds received from the state board of education.
FIGURE III
Value Proposition Canvas$^{24}$
FIGURE IV
Value Proposition Canvas for High School Student Customer
Value Proposition for Parent Segment

FIGURE V
Value Proposition Canvas for Parent (Secondary Customer)
FIGURE VI
Value Proposition Canvas for School Leader and leadership (Secondary Customer)
Customer Discovery

Because the author is daily immersed in the context of the target students already, he had a good sense for their feelings about international internships and the costs. He held these conversations informally through mentoring, advising student groups, counseling, and teaching. However, he also formally polled 177 students and held interviews with 8 other students, 100% of whom said they would be interested in such a trip. Only 4 students had done an international program before at all, and 98% of students mentioned the costs as prohibitive.

Value Proposition & Enumerated Hypotheses

After the customer discovery through conversations, polls, and interviews, the right side of the Value Proposition Canvas (Figure IV) remained unchanged. This was expected because the author and designer had already been in constant communication with the target population. As a result, the left side also remained unchanged as it still represented our best guess of what would best solve the problem of not being able to participate in international internships.

In order to create hypotheses which we’ll use to design experiments, we followed three steps.

1. Enumerate assumptions.
2. Prioritize assumptions.
3. Convert highest priority assumptions into hypotheses.

A defined value proposition, especially visualized through the Value Proposition Canvas, can be helpful to illuminate particular assumptions. So we examined that in order to create our list of assumptions (Table I).

<table>
<thead>
<tr>
<th>Segment or Subject</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Students wanted to travel or do their high school summer internship abroad.</td>
</tr>
<tr>
<td>Parents</td>
<td>Parents would allow their students to travel internationally for 1-2 months.</td>
</tr>
<tr>
<td>School Leader</td>
<td>YES would allow students to travel internationally with a school program.</td>
</tr>
<tr>
<td>School Leadership</td>
<td>YES would support the students financially so they didn’t have to pay for the program.</td>
</tr>
<tr>
<td>Students</td>
<td>Students would maintain pen-pal relationships.</td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>Students could learn a language at an intermediate level during the year before traveling.</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td>10-12 students is the best size for learning teams for each trip.</td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>Students could adequately prepare for the project work during the year before traveling.</td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>Middle school students were not prepared or mature enough to participate.</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td>Daily reflections will maximize learning.</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td>Students should have a physical, tangible primary project for the bulk of their work because it’s difficult for them to feel a sense of accomplishment with a service like spending time with people in hospice care.</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td>Students should follow a work week with sightseeing on the weekends to maximum productivity and sense of accomplishment.</td>
</tr>
<tr>
<td><strong>School leadership</strong></td>
<td>YES would grant completion credit for their internship requirement to students who participated in YISS.</td>
</tr>
</tbody>
</table>

In order to prioritize the assumptions, we used a two-by-two matrix to map all initial assumptions (Figure VII). The x-axis measures certainty (how sure we are that the assumption is true) from completely uncertain to completely certain, highlighting that any statement lives on a range of certainty rather than a binary variable—certain or not certain. The y-axis measures the criticality or risk of the assumption. How fundamental is the assumption is to the viability of the product or service idea?
Next we chose the highest-priority assumptions to test, first, since we don’t have time to test all assumptions. In Lean Startup, we prioritize the highest risk and most uncertain assumptions. We do this because these are the assumptions about which we are most unsure and simultaneously carry the highest risk for the program. In other words, we’re not sure if they are true, and if they are not true, the program won’t and can’t work as it is envisioned. They are fundamental to the program idea itself. We need to find out as soon as possible if these assumptions are true or not, so that we don’t waste time and other resources creating any part of it without knowing it will only fail.
From our assumption grid, we chose the five assumptions in the top-right corner (Figure VII) to test and translate to hypotheses. The goal is to make sure each hypothesis statement is specific, measurable, and testable. Using an if/then framework, we have translated each assumption into a testable hypothesis (Table II).

**TABLE II**
**Hypotheses**

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will choose to sign up for the program.</td>
<td>If we created a program application with a required permission slip and made it available to all 400 high school students, at least 20 would returned a signed permission slip.</td>
</tr>
<tr>
<td>Parents would allow their students to travel internationally for 1-2 months.</td>
<td>If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow us to offer the program to kids with full support including receiving donation checks written for the program.</td>
</tr>
<tr>
<td>YES would allow students to travel internationally with a school program.</td>
<td>If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow students to count the trip as one of their required two high school summer internships.</td>
</tr>
<tr>
<td>YES would grant completion credit for their internship requirement to students who participated in YISS.</td>
<td>If we presented an overview of the program to YES leadership including the cost for the program, YES would pay all student fees to enable students to participate.</td>
</tr>
<tr>
<td>YES would support the students financially so they didn't have to pay for the program.</td>
<td>If we offered a program to YES high school students and accepted 10 students to participate as a team traveling to one country, over the course of the year, 100% of the 10 students would take language classes and achieve an intermediate level of proficiency in order to communicate over the summer.</td>
</tr>
<tr>
<td>Students could learn a language at an intermediate level during the year before traveling.</td>
<td></td>
</tr>
</tbody>
</table>

**Build: Minimum Viable Product**

Even though we did not map the first bracketed assumption (Table II) in our Assumption Grid because we felt we knew our customers well enough, we still placed it in our hypothesis table in
case we were wrong. The reason we build a minimum viable product and run an experiment is that sometimes potential customers say one thing in an interview, but act a different way when it is time to commit time, money, or some other precious resource. An experiment is a better way to test customer behavior and the true value of your proposition\textsuperscript{13,25}. For our program offering, the application would serve to test both student willingness to go on the international trip, as well as parents’ willingness to give permission.

To test each hypothesis in Lean Startup, we build a Minimum Viable Product or MVP. “Minimum” means we use the least amount of effort and resources, building it as conveniently, efficiently, and quickly as we can. “Viable” means that it has the essential features of the complete or idealized product, program, or service; or, at the very least, it conveys a sense of the experience one will have with the full version. “Product” means that there must be some exchange of “currency”\textsuperscript{14}. Whether money or time or an email, the potential customer must make some sort of commitment beyond just words. This is one reason why Lean Startup is specifically for products and services or a program that offers a product or a service; the customer must have an ability to reject the offer and not commit money or other resources.

There are three large categories of MVPs: explanation MVPs, artifact MVPs, and experience MVPs. Experience MVPs deliver the experience of the product or service as conveniently and cheaply as possible. Artifact MVPs are physical models or mock-ups or storyboards of the product or service idea. Explanation MVPs give a sense of the experience by showing what it might be. Examples include a sales pitch, video, landing page, or even a brochure or flyer. All the initial, low-fidelity MVPs we created for the YES International Summer Service (YISS) program are Explanation MVPs (Table III).

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>MVP</th>
</tr>
</thead>
</table>
| If we created a program application with a required permission slip and made it available to all 400 high school students, at least 20 would returned a signed permission slip. | 1. School announcement  
2. Flyer  
3. Application |
| If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow us to offer the program to kids with full support including receiving donation checks written for the program. | Conversation with leadership |
| If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow students to count the trip as one of their required two high school | Conversation with leadership |
If we presented an overview of the program to YES leadership including the cost for the program, YES would pay all student fees to enable students to participate.

If we offered a program to YES high school students and accepted 10 students to participate as a team traveling to one country, over the course of the year 100% of the 10 students would take language classes and achieve an intermediate level of proficiency in order to communicate over the summer.

| summer internships. | |
| ------------------- | |
| If we presented an overview of the program to YES leadership including the cost for the program, YES would pay all student fees to enable students to participate. | Conversation with leadership |
| If we offered a program to YES high school students and accepted 10 students to participate as a team traveling to one country, over the course of the year 100% of the 10 students would take language classes and achieve an intermediate level of proficiency in order to communicate over the summer. | HOLD: Later Stage MVP |

It is important to note that we did not create an MVP for the last hypothesis about language proficiency because it had a lower priority and precedence compared to others. In other words, if the other hypotheses failed, it would not matter if this one succeeded. Secondly, the only way to test the language proficiency was to put students through a language program for a language they needed to know for a future trip. In other words, we would have to offer an actual trip in order to test it. So this was designated as a later-stage MVP for a later experiment.

Because the second, third, and fourth hypotheses all relate to YES leadership, we created one MVP - a conversation and did them simultaneously. Of course, if YES leadership required us to create a formal plan, proposal, and slide presentation, we would have done that. However, in Lean Startup, our goal is to spend the least amount of time to get an answer to a question. In this case, the minimum explanation was a conversation and the leadership accepted this. Our guess is partly because YES has a culture of teachers taking students to university tours in one region of the US each year. So out-of-state trips were not new.

The first hypothesis has three parts to it, and that does connote order. We started with an announcement, then later a flyer, and then finally an application. It is important to note, that we could not evaluate the success of the hypothesis until the application MVP had been sent out and we began receiving applications.

Measure

Our initial hypothesis about student interest and parent willingness was correct (Table IV). We received over 100 applications. We believe we would have received more; however, we included a pre-requisite that a student must have As and Bs in all their courses. We didn’t want the program preparation to take time away from needed academic growth.

Additionally, the school agreed that the program was a good idea and gave their “full support” according to the principal. Full support included counting the program as a high school summer internship. However, we misinterpreted the fullness of the term “full support.” The
principal did not mean any financial support. In fact, without saying so, he meant zero financial support. To compound matters, by the time we had discovered the school would give no money, the announcement had already been made multiple times and students had seen the flyer already. The author and another teacher helping with the program had a decision to make: either cancel the program or modify the financial model. The decision was made to move forward with the program in an effort to honor and keep our word to the students who had an expectation that the program was happening.

**TABLE IV**

**Experimental Results**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>RESULTS</th>
</tr>
</thead>
</table>
| If we created a program application with a required permission slip and made it available to all 400 high school students, at least 20 would returned a signed permission slip. | 1. [QUALITATIVE] People were excited in class whenever the announcement was made. I received too many questions and had to cut them off after 5 minutes. This happened for 5 days.  
2. I had 50 students approach me with questions after the flyer was created.  
3. I had 20 parents contact me with questions.  
4. We received over 100 applications. |
| If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow us to offer the program to kids with full support including receiving donation checks written for the program. | YES said yes. |
| If we presented an overview of the program to YES leadership, YES would make a decision within one week to allow students to count the trip as one of their required two high school summer internships. | YES said yes. |
| **If we presented an overview of the program to YES leadership including the cost for the program, YES would pay all student fees to enable students to participate.** | YES said no. |
| If we offered a program to YES high school students and accepted 10 students to participate | HOLD: Later Stage MVP |
as a team traveling to one country, over the course of the year 100% of the 10 students would take language classes and achieve an intermediate level of proficiency in order to communicate over the summer.

Learn

In the “Learn” portion of the Lean Startup loop, we make a deliberate decision, based on the data, to persevere, pivot, or iterate with our product or service design. A pivot is a wholesale change in the model, while an iteration is a minor change to the model. Every critical hypothesis we defined proved successful except for receiving all student fees from the school. YES would not pay any student fees. So we iterated and asked for YES fundraising staff to direct some of their fundraising work to the trip for the students. We were told no. We iterated again and asked for funding from YES angel investors, outside community members who financially invested in the school and mentored students. YES refused to give us access to talk with the investors. At this point we pivoted to a student fundraising model. The trip was still free as long as the students were willing to put in “sweat equity” and raise funds throughout the school year.

Finally it was time to create an actual MVP of the trip. We decided to go and visit the Peace Corps volunteer who invited us to El Salvador because Central America was a closer, cheaper, and more minimal trip than other regions; we estimated the trip cost to be $10,000 for the entire team of two teachers and 10 students. Canada may have been possible, but a trip in which students had to learn another language like French wasn’t minimal. In order for it to be minimal, we decided a Spanish-speaking country was best given that our population was 90% Latin American, majority of the students spoke some Spanish, and Spanish was the most popular foreign language course taken by students. Instead of designing the trip and including language learning preparation meetings, we would just give application preference to students who already knew Spanish.

A Spanish-speaking country would also be easiest for parents to accept. Even though parents initially signed the permission slip, they could remove their students from the trip at any time. Many parents already had told us they did not want their children going to Africa. We were going to have to assuage fears in future parent information sessions.

Lastly our MVP trip and program covered just the last quarter of the school year, from spring break to the end of the school year and the beginning of summer. This meant that we had to find students who were available to fundraise most of the remaining weekends (since we did not have the full year).

After the first trip to El Salvador, the first year, we were able to grow, pivot, and iterate going to further places like Asia and Africa, using the entire year to prepare with students, working with the students to learn a foreign language that was not Spanish, and managing larger budgets (the India team in 2007 had a budget of $50,000). The next section will summarize the pivots and iterations for the program.
PIVOTS AND ITERSATIONS

Instead of describing every cycle of the Lean Startup loop, it is simpler to briefly summarize the main pivots and iterations from the original model to the model that we use today. We continued to pivot and tweak the program to make sure it matched and followed student demand, as well as parent approval, and school support.

1. **Financial Model**
   a. **Original Idea** - YES will fund the trips including travel and project expenses.
      i. **Iteration** - YES will direct fundraising staff to fundraise for student trips in full.
      ii. **Iteration** - YES will allow YES Angel investors to invest in the trip.
   b. **Pivot** - Students will invest “sweat equity” and do a weekly individual and joint fundraisers for their travel and project expenses.
      i. **Iteration** - We will do 4 large joint fundraisers per year to raise the money for the trip freeing up weekends.

2. **Timing of the Program**
   a. **MVP** - Research, plan, announce, fundraise, and prepare for trip in the last quarter of the school year after spring break.
   b. **Pivot** - Research, plan, and choose trip locations and partners during the summer and announce trip options first or second week of school in the autumn.
      i. **Iteration** - Include a spring break trip which has less time to prepare for a shorter (1-week) trip compared to longer summer trips.

3. **Destinations & Languages**
   a. **MVP** - Central America program
      i. **Iteration** - The program branches out to include Asia and Africa and non-English, non-Spanish languages.

4. **Partners**
   a. **Original Idea** - Partner with Peace Corps Volunteers (PCVs) in their site and community and join them in their community work.
      i. **Iteration** - Partner with PCVs or any NGO workers as long as we choose the best project option in a particular country.

5. **Curriculum**
   a. **Original Idea** - There is no set curriculum for reflection times as the learning and learning goals are personalized for each student.
      i. **Iteration** - The first MVP trip included two reflections that have become standard for all trips while all the rest of the reflections depend on the specific trip, context, work, and happenings on the trip.
         1. **Reflection I** - generative exercise to look at creative ways a job can embody a match between a particular skill, talent, gifting, or ability with a love, burden, or desire.
         2. **Reflection II** - Final night foot-washing ceremony where we define what service is, who can do it, who can receive it, and then we serve each other by washing each others’ feet and saying something for which we are thankful to that person, offering some
praise to that person, and giving a wish or a hope for that person whose feet we are washing

6. Application
   a. MVP - The application consisted of demographic information, some short answer, a recommendation, and an essay. We asked about Spanish proficiency, exercise routine, and grades. We looked for people who were available every weekend or the vast majority of weekends before the trip.
   b. Pivot - We no longer asked about language proficiency since we believed students should have an opportunity to learn the language. We no longer needed students to be available each weekend since we moved to a model with fewer fundraisers.

7. Fundraising & Marketing
   a. Original Idea - The students raised as much money as they could. If any student surpassed her goal, she could select a student to receive her surplus. Each teacher fundraised for the trip the teacher was leading, both as an individual and for the entire trip, which benefits all students on the trip equally. Most of the money for the trips would come, not from sweat equity of the students, but from private fundraising the teachers do before, during, and after school with business groups, Chambers of Commerce, Lions Clubs, Rotary Clubs, Kiwi Clubs, etc. The teachers advertised the program as an international development, social entrepreneurship, service learning trip. The teachers also solicited in-kind donations from groups like airlines, van transportation companies in the country we would visit, etc.
      i. Iteration - The author became head of the program and fundraised for his own trip as well as all trips, in general.
   b. Pivot - The main author advertised the program as local development more focused on the students, rather than the work they would do abroad. This was in response to business people who asked why wouldn’t they simply give the money directly to the community abroad. This description as a local community youth development project focused on the YES students was a more accurate description and connected more with audiences.

8. Sustainability
   a. Original Idea - The project work the students complete is community suggested and community-owned. The community will carry on the work after the students leave. Each family that benefits from the work is required to work alongside the students in setting it up or building the main project (whether a library or dual-composting latrines). The community applies for a grant from the students to complete the work before the students arrive. This teaches the community grant proposal writing skills and they can use it to apply for other funds.
   b. Persevere - We never changed this model as it worked well.
The first MVP trip to El Salvador was a success. All of the $10,000, for travel expenses and the project expenses, was raised. The only problem on the trip was that 9 of the students bonded well with each other while a 10th student did not fit in well and bonded more with the two teachers. We improved the situation on the trip by talking with the team and encouraging better dynamics. However, it was not fully resolved then. In future trips we factored group dynamics in order to choose people who go out of their way to make others feel better and relate to others beyond cliques.

Initially, it was not clear whether we would run the trip again even though we used a Lean Startup methodology which implied it. It was tiring, and a bias began to grow in the school where if a trip-leading teacher had a bad teaching day, the principal would blame it on the trip and YISS program. This created a situation in which YISS teachers had to be twice as good as the average teacher because any mistake was magnified. They all rose to the challenge, but it wasn’t certain that we would offer the trip again. However, we received amazingly positive qualitative feedback (Table V).

<table>
<thead>
<tr>
<th>Quote</th>
<th>Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Are you running the program again? Mr. U you have to do it. Have you seen Alex? He is so much more considerate than he used to be. He thinks of others and has become others-focused.”</td>
<td>Faculty</td>
</tr>
<tr>
<td>“There’s something special about the kids who went on your program. They seem to have a more holistic, global perspective of the world. The trip had a great effect on them. I hope it happens again.”</td>
<td>Staff</td>
</tr>
<tr>
<td>“Sarah stays behind class now and asks if I need help. She tries to help students in lower grades. She is much more interested in service. I hope she can go again on your trip next year?”</td>
<td>Faculty</td>
</tr>
<tr>
<td>“If you don’t offer the trip again, I’ll do it!”</td>
<td>Staff</td>
</tr>
<tr>
<td>“There is something really magical about what your trip did. The students have grown and”</td>
<td>Faculty</td>
</tr>
</tbody>
</table>
matured in ways and at a speed I have yet to see. This should be offered to many more students.”

The comments, calls, and thank-you’s were overwhelming. We decided we did not have a choice. If the benefit was this palpable by faculty and staff with students in class, activities, and around school, we needed to offer this opportunity to more students. So we decided to always return back to the same country each year, but to add at least one new country every year to the list of opportunities, in order that more students could participate.

Moreover, unknown to the author and other teachers who helped on the trips, the program was nominated for a National Character Education Award in its second year, in 2007. That year, the YISS program won that award. Additionally, the author was invited to speak about the program and service in education at the 2007 National Public Charter Schools Conference. That speech and talk inspired an audience member to continue moving forward to create her dream PeacePals, now called Global One-to-One. At the same conference, former DC Public Schools Chancellor and Founder of The New Teacher Project Michelle Rhee and YES Founder Chris Barbic, encouraged the author to launch the program as an independent non-profit.

The author, a serial intrapreneur and entrepreneur, moved on to implement other educational initiatives overseas, but the program continued after him. Now back in the States, the author has been doing program design work for a DC nonprofit that organizes similar trips for DC students while working to launch YISS as its own social enterprise.

**CONCLUSION**

In this work, we presented the use of a Lean Startup design methodology to guide the design-based implementation of an international summer service-learning program for high school students in Texas. The program, called YISS, was designed and created to give a free opportunity for students to complete an international summer experience when otherwise costs would be prohibitive.

In the end, YISS took groups of 10-12 students, to a foreign country to do service work in a town or village, usually partnering with an NGO worker or PCV for 1-2 months. Every year we would return to the same country and add a new one. The program consisted of a few components.

- To prepare, student teams met throughout the year for four reasons.
  - **Fundraising**
  - **Project training** (so they could start working soon after arriving)
  - **Language training**
  - **Pen-pal writing** (students had at least one pen-pal their own age in the town they would live so that when they arrived they already had established relationships)

- The projects rested on a few pillars.
  - **No student had to pay to participate in one of our international summer**
service trips. A student only had to put in the “sweat equity.”

- **Students worked on one primary, tangible project and various secondary projects.** For YES students, it was hard for them to understand acts of service like spending time with the dying. So we initially started by having every group have one large tangible, physical project like building an adult education learning center. Added to that, the students did various secondary projects for each trip like art classes, English classes, health and sanitation workshops, sports leadership camps, HIV/AIDS workshops, gender empowerment projects, terrace gardening, recycling projects, school world map projects, etc.

- **Students fundraised not just for their own travel expenses but for the projects they would help implement.**

- **Projects were suggested, created, owned, and maintained by the community.**

- **Communities would learn skills through the project.** For example, in El Pital, El Salvador, the town council applied for funds from the students. This was not because YES students were possibly going to reject the application. This was to teach the skill of grant proposal writing. It worked. The town of 250 went on to apply and win two more grants for further work after we left.

- **All families benefiting from the student work also worked with the students.**

The YISS program still adheres to the learning theories that emerged from the work. This includes the ability of daily reflections to maximize learning as well as preparing relationally through the pen-pal relationship. Linguistic preparation and pre-trip, project training increase learning on the trip, as well, and the YISS program continues to focus on it. The group size of the YISS trips never changed as well, allowing for really great inter-group dynamics when students are fully engaged and excited about learning from each other.

As we currently work to create an independent organization, we are testing various social enterprise models which will allow the program to run without relying on fundraising. In this way, we are using a narrow definition of social enterprise meaning an organization with social aims like a non-profit but with revenue-generating business models like a for-profit organization.

**Acknowledgements**

The author would like to thank Tamar Losleben, the original PCV who suggested the idea for the program as well as Michelle Rhee and Chris Barbic who encouraged the program to turn into an independent organization. Lastly, and most importantly the author thanks all the hardworking teachers and students who made this work a reality.
REFERENCES


15 Sabelli, Nora, and Chris Dede. "Empowering Design-Based Implementation Research: The Need for Infrastructure."


