

POV's & Experience Prototypes: Written Report

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Problem Domain:

We are primarily focused on tackling the problems associated with getting students engaged in their education. From both personal and peer experiences, we hypothesized that getting students engaged early in their lives would make for more successful experiences in education later down the road; thus, if we could help solve the issue of getting students engaged in education at an early age, we could make for a more optimistic future with regards to success for kids in schools.

Need Finding Process:

Our initial need finding procedure focused around targeting individuals who comprised what we like to label the "Student-Educator-Parent Triangle" – the three main agents responsible for influencing an individual's educational experience. From our interviews, we developed a notion that one of the biggest issues in student engagement is a lack of coordination between teachers and parents. Specifically, teachers felt that education should extend outside of the classroom and that parents play a critical role in bringing that educational experience to kids at home. A lacking in support for teachers was also cited as being another reason for why teachers are unable to meet the needs of all of their students. Additionally, parents we interviewed exhibited a strong desire to be committed to their children's education, with barriers such as time, stress, and

communication preventing them from doing so. From our first stage of need finding, our initial POV's were as follows:

"We met... Danielle and Travis, two parents of 3 and 6 year old children.

We were amazed to realize... that although they had a desire to be involved in their children's education, there were barriers preventing them from doing that.

It would be game-changing... to offer an easy and convenient way for them to be more involved in and aware of their child's education."

"We met... Kyle, a senior year student in Stanford's STEP Program.

We were amazed to realize... that there were very little incentives for people to become teachers, largely because of lacking support networks for teachers.

It would be game-changing... if we could provide a stronger support framework for teachers."

To better analyze this problem, we decided to interview a couple more parents and educators to gain further insight. We visited the Stanford Bing Nursery School, the Nueva School in Hillsborough, CA, and a Kindergarten teacher from a low income neighborhood in Union City. In total we interviewed four educators, two of whom were also parents of young kids. Our additional insights backed our previously conceived notions on education – perhaps the most ubiquitous discovery we found was that both teachers and parents were deterred from talking to one another in various ways. On one end, teachers often feel that parents are overly defensive and protective of their children, which makes having meaningful discussions about a child's performance in school difficult. On the other hand, parents face the issue that questioning a teacher about his/her doings in school could be interpreted as undermining a teacher's authority, thus

instilling fear that if a parent annoys a teacher, that teacher might take it out on their child by treating them poorly.

“You don’t want to take away from a teacher’s autonomy, but you still want to advocate for your child.” - Parent Head of PTA at Nueva School.

“I’ve heard from so many parents, in my role I get a lot of calls, they ask me ‘How do I approach this teacher?’” - Parent Head of PTA at Nueva School.

“There is a lack of input from the teacher because of the time constraints.” - Parent Head of PTA at Nueva School.

Additionally, throughout all of our parent interviews, the need for a better way for parents to advocate and support their child was expressed. For many new parents, they had no idea or direction as to what types of things they could be doing for their child at home to better prepare them for their classroom experience. For example, Sun, told how she and many other parents really enjoy even the limited time they get with teachers because they get insight into how best they should educate their child.

“Every parent cares about their child, and these conferences help parents figure out how to help in their child’s education” - Parent Head of PTA at Nueva School

Alongside that, we also found increased evidence that teachers lack the necessary support to make a child’s educational experience optimally fruitful. We found when talking to all four of our educators that the school system encourages children to follow rules and norms with regards to education, meaning that students feel less empowered to do what they are most skilled at. This leads to kids feeling less engaged and having their creativity stifled. In particular, the Bing Nursery School Teacher/Parent noted how her child’s transition from the free-form Bing environment to the institutional school environment made it so his creativity with his free time was stifled; after starting school, during the weekends, he learned how to be bored unless someone told him what to do.

"What's sad to me is to see the change in the level of creativity and self direction;he'd literally ask me what he should do on weekends" - Bing Nursery Parent

Lastly, we found that a vast majority of teachers struggle with tracking individual student progress throughout the quarter. In an attempt to recreate an average of thirty "after the fact" reports for all of their students, teachers often struggle to recount important issues pertaining to individual students and thus cannot give optimal feedback to parents when they meet them for conferences.

"A big issue may come up with one of the kids (like their family getting divorced) that has to be dealt with. That information needs to be shared between teachers immediately and effectively"
- Bing Nursery Pre-k Teacher

"All our documentation is fundamental to what we do, but it's laborious.. it would be so nice if in the moment you could document what the child is doing and how it relates to their development"
- Bing Nursery Pre-K Teacher

From these findings, we decided to revise our initial POV's to include what we learned:

POV #1: Parent Involvement

"We met... Sun, the President of Nueva School District's PTA, and Adrienne, a Bing Nursery School Teacher and parent to one 6-year-old son.

We were amazed to realize... that there is a disconnect between teachers and parents when it comes to communicating about students; teachers are deterred from talking to parents due to fear of being defensive, and parents are deterred from talking to teachers out of fear that teachers will begin treating their children negatively.

It would be game-changing... to give parents and teachers a way in which they can effectively communicate with one another about students in an open and less deterrent environment without adding further stress to either side of the conversation."

POV #2: Teacher Support

"We met... Adrienne, a Bing Nursery School Teacher and parent to one 6-year-old son.

We were amazed to realize... how much information about child development get's lost during "after the fact reports" that are made on the kids.

It would be game-changing... to give teachers a way to rapidly document and share information between themselves in order to ease and better the process of creating parent reports."

POV #3: Student Creativity/Engagement

"We met... Adrienne, a Bing Nursery School Teacher and parent to one 6-year-old son, and Kyle, a student in Stanford's STEP Program.

We were amazed to realize... that focusing on the process of learning over results allows students to empower themselves and engage in their own education more easily. Doing so also encourages creativity instead of stifling it.

It would be game-changing... to devise a solution that helps kids learn responsibility/integrate into societal norms without stifling creativity or the desire to learn."

For each of our POV's, we then devised roughly ten to fifteen "How Might We..." statements to better narrow down the focus of our problems. In creating our HMW statements, we tried to come up with unique twists of the problems presented to us in our POV's. The goal was to approach each POV from different angles in hopes of inspiring a greater number of innovative solutions that could better solve our problem at hand.

POV:	Parent Involvement	Teacher Support	Student Creativity
HMW Statements:	<p>How might we remove parents fear of talking to teachers?</p> <p>How might we remove the notion that parents' kids are at risk whenever parents talk to teachers?</p> <p>How might we empower students to bring together both their parents and teacher?</p> <p>How might we remove the stigma that teachers don't want to talk to parents because they are too busy?</p> <p>How might we let teachers effectively communicate with parents without increasing stress loads?</p> <p>How might we cultivate the mindset of "Team" between parent and teacher</p> <p>How might we create more opportunities for parent-teacher interaction without going through the hassle of having face-to-face meetings with every single parent? (i.e. fall conferences)</p> <p>How might we give parents the resources they need to better help their kids at home?</p> <p>How might we cultivate the mindset that the educational experience is everywhere, not just in the classroom?</p> <p>How might we make parents more aware of the processes behind student work in schools? (not just the end product, but the journey to reach that product)</p> <p>HMW create a support network for parents to extend their children's education to beyond the classroom?</p> <p>HMW make parents and teachers want to and feel comfortable with talking to each other freely?</p> <p>HMW utilize after school time time/programs to support parents in supporting each other to support their kids?</p> <p>HMW make the parents teacher relationship more neighborly or</p>	<p>How might we provide teachers with an easy way to communicate with one another about students?</p> <p>How might we allow teachers to track students longitudinal process easily (through their k-12 education)?</p> <p>HMW empower/allow teachers to support each other professionally?</p> <p>How might we eliminate the tediousness of creating reports for parents?</p> <p>How might we "crowd source" information from all teachers to make report writing easier</p> <p>How might we centralize all information gathered to make student growth data recollection easier?</p> <p>How might we automate the process of report generating</p> <p>How might we make creating parent reports fun?</p> <p>How might we give insight into process rather than product</p> <p>How might we do all of this without increasing the time spent by teachers on their work?</p> <p>How might we utilize the resources of long-time, experienced teachers to help/support new teachers as they begin their careers?</p> <p>How might we provide teachers with a way to more frequently notify parents of student progress without hassling the teacher?</p> <p>HMW allow teachers to track a child's social development more easily?</p>	<p>How might we integrate empowerment and choice into the routine of school?</p> <p>How might we change the hierarchical classroom dynamic to be more symbiotic and collaborative</p> <p>How might we refrain from discouraging kids from pursuing their passions/strengths?</p> <p>How might we give students the power to choose HOW they learn the set curriculum</p> <p>HMW make schools a place that foments creativity instead of stifling it?</p> <p>HMW change social interactions in the classroom to allow students to empower their own education?</p> <p>How might we make school more of a creative hub?</p> <p>How might we give teachers the tools to facilitate this type of learning among kids?</p> <p>How might we give parents ways to promote a mindset that doesn't stifle students' creativity at home?</p> <p>How might we allow students to constantly be engaged and empowered in their education on the go?</p> <p>How might we 'gamify' curriculum to encourage students to work together and discover concepts on their own/collaboratively?</p>

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From these HMWs we chose the following three top POV's; we thought they best outlined the core problems from each of the point of views we assembled:

- 1) How might we cultivate the mindset that the educational experience is everywhere, not just in the classroom?
- 2) How might we centralize all information gathered to make student growth data recollection easier?
- 3) How might we give students the power to choose how they learn the set curriculum?

Experience Prototypes:

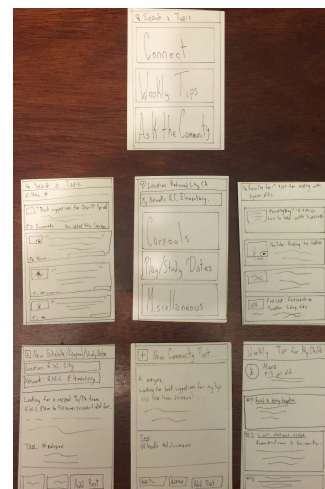
1) *How might we cultivate the mindset that the educational experience is everywhere, not just in the classroom?*

Assumptions:

Parents want to collaborate with teachers to assist in their child's learning; Parents want materials to help them parent better, but don't have immediate access to those sources; Teachers feel that education extends outside of the classroom.

How it was made:

We made this out of hardstock paper in an attempt to simulate a parent actually using this application.



How it was tested:

We tested this on the Bing Nursery School Teacher, but asked her to evaluate based on her role as a parent. We also tested this prototype on Sun, the head of the PTA at Nueva School. Generally we asked parents to pretend they were in a situation where they had a problem that they didn't know how to solve, where the app provides a route to the solution they wanted.

What worked/didn't work:

In both cases, the parents deeply identified with the need of parents to want information about how to best care/advocate for their child. However, in our prototype, we included a function that enables anyone to be able to see/ask/answer questions online. Both parents expressed their cautions for privacy and quality associated with this method and stated their preference for a more curated content experience.

Were our assumptions valid?

Our assumption that parents have a deep desire for the best way to advocate and help their child was valid in both test cases, however the assumption that this need could be satisfied by crowdsourced information wasn't as well received.

New assumptions:

Based on our interactions with both parents, we found that we can now assume that in order for parents to want content online, it needs to be well organized from a credible source.

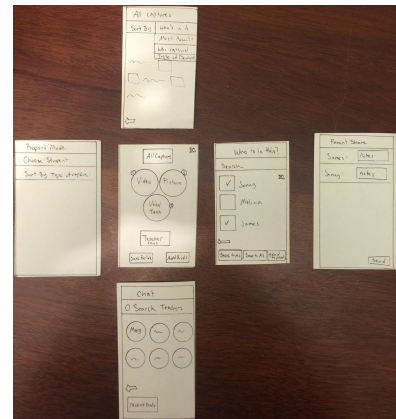
2) How might we centralize all information gathered to make student growth data recollection easier?

Assumptions:

Teachers find that writing student reports is a long tedious process. Teachers can't easily recollect information about all their children. This solution needs to be "quick capture" such that it doesn't interrupt the normal flow of the class.

How it was made:

We made this out of hardstock paper in an attempt to simulate a teacher actually using this on a mobile application.



How it was tested:

We tested this on a Bing Nursery School Teacher, as well as on a low-income area Kindergarten Teacher. We asked them to think of how they would usually document daily activities, and use the method we devised instead.

What worked/didn't work:

Both test cases liked the idea that they could have all their student data conveniently in one place, but expressed caution/concern how quickly the data could be captured and how well the data could be sorted for use later.

Were our assumptions valid?

Our assumption that teachers would like a better way to sort kids' data was validated, as well as the assumption that teachers sometimes can't communicate within themselves as well as they would like.

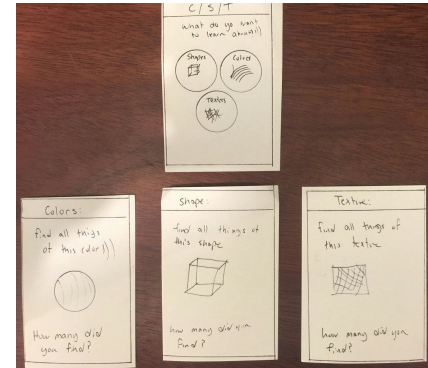
New assumptions:

An interesting feature that we didn't include in our prototype was the idea to include how many snapshots of each child's work had been taken. This would enable to see if any children were "getting lost in the crowd" so to speak. A new assumption that we could integrate would be that some children naturally get less attention from teachers, and we should build our app in such a way that helps prevent that from happening.

3) How might we give students the power to choose how they learn the set curriculum?

Assumptions:

We assumed that in most schools routine is a major part of keeping to the curriculum and accomplishing goals, but that routine and set rules are what kills the child's engagement in class. We assumed that children would love a way to take more control of their education.



How it was made:

We made this out of hardstock paper in an attempt to simulate students and a teacher actually using this application

How it was tested:

We tested this on two Bing Nursery School Teachers. We didn't have access to actual kids, however we asked the Teachers for their advice and expertise on this game.

What worked/didn't work:

We attempted to integrate the idea of experiential learning into this game, which the teachers thought was something good, but they expressed their cautions in the fact that the kids they work with are very young, and so it's tough to design a successful interface for such ages.

Were our assumptions valid?

Our assumption that kids would like more experiential learning was definitely valid, but the implementation of such an idea is difficult to execute via an app interface with such young kids.

New assumptions:

In order for a game/app like like this to be successful, it's essential to include some real world exploratory experience into the design, as well as possibly including props.

Most Successful Experience Prototype:

From an implementation standpoint, the prototype built to enable better teacher to teacher communication/documentation (Prototype #2) was the most well received of

the three. However, the prototype built to address parents' needs (Prototype #1) for information about how best to advocate for and support their child was built upon a very strong need; with some tweaks, this implementation could be a more widely accepted application if you look at the amount of parents who would want an application like Prototype #2 versus the number of educators who would benefit from using Prototype #1.