

Teacher Empathy Map:

<p>Say:</p> <ul style="list-style-type: none">● “technology gathers resources for students to learn from in/outside the classroom or for teachers to use in the classroom” - Lesley● “teachers need to know how to use tech, if teachers don’t know then students won’t know how to use it” - Lesley● “there’s no wait time on their tablet but in the classroom they won’t get everything immediately - it affects patience” - Lesley● “brings so much more information into the classroom” - Lesley● “plays a big role in widening the gap between those who have and those who do not have” - Lesley● “lower funded schools still use old books whereas wealthier schools have books online and given a tablet” - Lesley● “there is a snowball effect of not learning these technologies early on” - Lesley● “Some kids did a great job when working individually but when they were together they distracted each other” - Matt● “We need you to sign up to help, these students need you” - Matt● “Spread the word - whatever the level of commitment, we need people” - Matt● “EPA still associated with crime, but for all of us at Streetcode it’s associated with great potential” - Tunde● “David went from working at Home Depot to interning at Facebook”	<p>Think:</p> <ul style="list-style-type: none">● having a high density of faculty to kids ensured success - Matt● the best way to keep kids with different levels of proficiency motivated is to have well prepared lectures. They aren’t as easily distracted if they have what to do. - Matt● Streetcode can make a big difference in the students’ lives ● Lesley thinks that people need to focus on teaching teachers how to use technologies● Lesley has an impression that most ed tech out there is for wealthy english-speaking students● Lesley thinks tech can enhance classrooms but also widens the gap● Lesley thinks that students in her classroom are not phased by technology● Lesley thinks that students have lost patience because of technology since everything is so instantaneous when it comes to iPads● Lesley thinks that Khan Academy is for wealthy students who can access it● Lesley thinks that Lumosity is really fun!
<p>Do:</p> <ul style="list-style-type: none">● A strong focus on teachers being knowledgeable on technologies - brought that up a lot in our conversation - Lesley	<p>Feel:</p> <ul style="list-style-type: none">● enthusiasm for helping EPA youngsters - Matt● grateful to the founders of Streetcode for creating a learning environment -

<ul style="list-style-type: none"> ● Kept talking about how technologies had to be integrated with a classroom's curriculum - Lesley ● Talking more about Lumosity in comparison to the other ed tech things - Lesley ● Talked a lot about her student's demographics - Lesley ● She raised her voice and strengthened her tone when she talked about how you can introduce engineering at a very early age (preK) - Lesley ● Didn't really have much to say about Khan Academy so she kind of threw off the question - Lesley ● Prepared a curriculum designed for different needs / levels of coding proficiency - Matt 	<p>Matt</p> <ul style="list-style-type: none"> ● sympathy for EPA students who turned their situation around by coming to Streetcode ● excitement about Lumosity because of the mind games - Lesley ● nervous about the gap that is being created between those who have and those who don't - Lesley ● curious about how teachers will learn how to use technologies - Lesley ● tired of how much work she has to do in order to keep other teachers up to speed with different technologies - Lesley ● annoyed at how impatient certain students might be because they want things immediately - Lesley ● hopeful that one day the gap between those who have and don't have can be bridged - Lesley ● excited when she can integrate new technology to her class - Lesley ● grateful for technologies like GoNoodle that relieve some of the stress from her job - Lesley
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Needs:

- People teaching teachers how to use technology in classroom - Lesley
- To integrate technology into classroom curriculum
- Get additional Streetcode mentors/faculty - Matt
- Enhance curriculum to address different levels of technology proficiency

Insights:

- EdTech may enhance education but also increase social divide
- Some teachers don't know how to use technology in the classroom so they have trouble implementing it into the curriculum
- EdTech has a stigma of catering to English-speaking wealthy students and families
- Students excited by STEM if they understand and lessons are well prepared
- Students sometimes distracted while working in groups and/or with mobile devices
- New generation has little patience
- Combat distraction with tailored curriculum

- Students are not familiar with STEM careers
- Technology does support teachers and gives them creative new ideas to use in class
- Students usually know how to use technology better than their teachers, especially if their teachers are older and did not experience technology early on

Student Empathy Map

Say:

- "I like science when I understand what's going on." - C
- "Gender might be more of an obstacle than race or class if I tried to work in the sciences" -C
- "No one understands what's going on" - C about math class
- Her high school is the second most diverse in the country, but basically all the teachers are white aside from the language teachers.
- "I hate online classes" - C
- Her math teacher doesn't let them ask questions unless they've written everything on the board down.
- "One of the biggest problems about school is that no one pays attention because everyone is playing on their iPads" - C

- "Popular things are sports, art, and drama, but not so much technology" - K
- "Engineering was required in 6-8th grade at my Malaysian high school" - K
- "More one-on-one time with teachers supposedly leads to a better education" - K
- "Engineering is not advertised as a source of income. Students think of becoming doctors and lawyers but not engineers" -K
- "At my old school in Malaysia people came in talked about what they did, and what they got paid, how much they liked it..."
- "A lot of people are into games. If the gaming population caught on a lot of minorities would want to come into the field."
- "It'd be cool if there was a videogame that you play and after you finish a

Think:

- C thinks that underrepresented minorities at her school are less interested in STEM fields than white/Asian students
- She doesn't know why underrepresented minorities at her school are less interested in STEM fields and didn't want to venture a guess
- It's more worthwhile to work hard in a class you understand than one you don't
- Once you're behind in class, it's hard to catch up
- Not understanding what's going on in class is normal

- K might think that engineering classes should be mandatory and actually teach applicable skills
- K might think that the US does not have the same emphasis on STEM subjects as other countries like Malaysia
- K may think that the biggest reason for the STEM disparity in the US is a lack of exposure
- The use of the word "supposedly" when describing the benefits of a private school education made it seem like he is unsure if private schools are really better.
- K thinks engineering is a "new" field

<p>level teaches you how that level was made and allows you to edit it. You can share your version of the game with friends.”</p>	
<p><u>Do:</u></p> <ul style="list-style-type: none"> ● K responded quickly about being interviewed ● K sounded disappointed by the lack of diversity in his new private school. ● K was very enthusiastic about learning about his options and also actually practicing engineering. ● Other potential high school interviewees didn't want to be interviewed ● The most excitement from C came when she was talking about something she understood - talked more quickly and with more animation ● Other enthusiasm points: when she was talking about her friends ● She was excited in general about telling me about her day in exhaustive detail - spoke quickly and happily for the most part ● When studying: more on her phone than actually studying ● She struggled working on her iPad because it's old and kind of broken ● Works less hard in classes she doesn't enjoy 	<p><u>Feel:</u></p> <ul style="list-style-type: none"> ● Embarrassment that underrepresented minorities are less interested in STEM ● Uncomfortable when she doesn't have friends in a certain class ● Enthusiastic about soccer/sports ● Happy when she can hang out with her friends in class ● Accepting of her teachers' teaching styles even when they aren't very good - why? ● Stressed/uncomfortable/intimidated when she doesn't understand something in a certain class - sometimes reacts by caring less about the subject ● K feels excited about stem fields ● K is disappointed by the lack of diversity at his private school ● K misses some elements of his Malaysian education ● K is unsure of all of his career options in the U.S. ● K is thankful that his teacher in malaysia helped him become interested in coding ● K is not confident in the benefits of a private school education

- Needs:
- Accessing textbooks/apps for school
 - Learning more about minorities in STEM / reasons why they're underrepresented in STEM
 - Feeling comfortable in class even when she can't talk to her friends
 - Staying focused in class despite the temptation to play on her iPad
 - Learning certain concepts in a more organized way than some of her teachers can provide

- K needs to know the career options available to him
- K needs to connect with other minority students
- K needs to learn the engineering skills his school won't teach him
- K needs to learn how to use the technologies accessible to him at his school
- K needs access to the technologies at his school

Insights:

- U.S. education does not emphasize engineering
- Minority students are underrepresented in high school engineering classes
- More asians are attracted to engineering fields
- Engineering is seen as a new field
- There are many minority gamers who do not know about engineering
- There are mandatory engineering classes in Malaysia
- Technologies are available in private schools but students do not know how to use them
- Students accept subpar teaching without questioning anything
- Technology can be a hindrance and a help - distraction and learning tool
- Feeling comfortable socially increases ease of learning
- The functionality/availability of the technology is just as important as the apps on it - if a student doesn't have a working device, then it doesn't matter what apps are available