

MIKVA CHALLENGE

MAYORAL YOUTH COMMISSION



CHICAGO YOUTH TECH PATHWAY

2015 EXECUTIVE SUMMARY

Mikva
Challenge



OVERVIEW

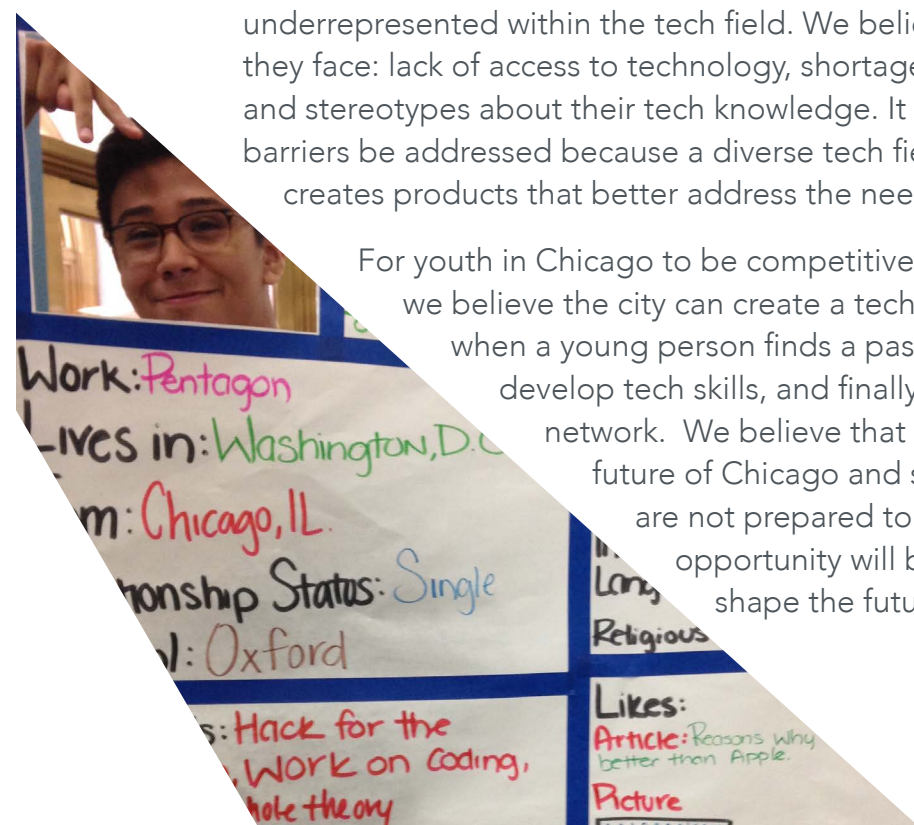
The Mikva Challenge Mayoral Youth Commission (MYC) is a diverse group of students who come from all over the City of Chicago. Our goal is to bridge the gap between decision makers and youth by providing a voice where one lacks. In the past, we have worked on issues such as transportation, violence, and employment. This year, the MYC is researching ways to provide a pathway for youth in Chicago into the tech field. Tech companies are increasingly offering well paid and engaging jobs, but we are concerned that Chicago youth are not prepared for them. This is why we asked ourselves, **how might the City support youth employment, access, and influence in the growing tech sector?**

One reason we think this question is important is that youth unemployment is a common problem that many young Chicagoans struggle with. In 2014, only 27% of Chicago teens were employed. In 2015, over 800 young people applied for 160 summer part-time positions at Mikva Challenge, which shows how many teens want a job! This is due to stereotypes about young people and lack of job opportunities. We believe the only way to improve the state of youth unemployment is to connect the skills teens are taught to the industries, like tech, that are growing in Chicago.

Another reason we think this question is important is that the tech field lacks diversity. In Chicago and nationwide, people of color and women are noticeably underrepresented within the tech field. We believe this is because of the barriers they face: lack of access to technology, shortage of tech learning opportunities, and stereotypes about their tech knowledge. It is very important that these barriers be addressed because a diverse tech field would create an industry that creates products that better address the needs of the whole community.

For youth in Chicago to be competitive for the increasing jobs in tech we believe the city can create a tech pathway. This pathway starts when a young person finds a passion for tech, then is able to develop tech skills, and finally gains access to the tech industry network. We believe that young people are key to the future of Chicago and so is technology. If Chicago youth are not prepared to enter the tech industry, a huge opportunity will be missed to have Chicago youth shape the future of city they love.

SOURCES: <http://www.chicagotribune.com/business/teen-unemployment-0131-biz-20150130-story.html>



RECOMMENDATION 1

The city should create a “Tech Passion Boost” grant for CPS teachers and school administrators interested in integrating technology into their students’ learning projects.

Schools would become eligible for the “Tech Passion Boost” by first facilitating a survey with their students on their passion, interests, and desired careers. Based off of the survey results, teachers would then propose ideas for projects/events that they would like to do and the materials needed to accomplish their idea. Funding would range from \$500-\$2,000 for each chosen project/event, and the stipend would help teachers overcome immediate resource needs (for example, an iPad Air 2 costs \$599 and an Apple desktop computer costs 1,029.99). The Mayoral Youth Commission would create the survey and review the proposals for the “Tech Passion Boost”. Once reviewed, MYC would oversee the process and distribute funds to the schools that are approved.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

- This recommendation addresses the lack of technology and creativity within some CPS schools, and allows teachers to create projects that might otherwise be limited by their access to tech resources.
- Students have no access to tech, which prevents them from acquiring skills.
- Interest in tech develops when it is used as a tool to pursue students’ own passions.

SUPPORTING DATA

- **Access to tech learning in CPS is not equal.** Our survey showed 41.06% of students feel their schools are somewhat, or not committed at all, to technology education.
- **Students want to learn tech skills for employment.** In question 7 of our survey, we found that 76.16% (230 students) plan on using tech in their future careers. However, this becomes an issue when students do not know of resources to learn these skills.

SHORT TERM OUTCOMES (6-12 MO):

It will give schools financial incentives and help to grow their initial ideas by providing students the opportunity and skills in order to learn how to implement tech into their traditional learning system.

LONG TERM OUTCOMES (5-10 YRS):

Their tech ideas will be expanded by having a larger incorporation of tech into their schools and as their ideas or events grow over the years they could receive more funding based on how well they do with the resources they get.

RECOMMENDATION 2

The city should sponsor and promote a “bring a CPS Student to work day” by facilitating partnerships with CPS schools and local tech companies.

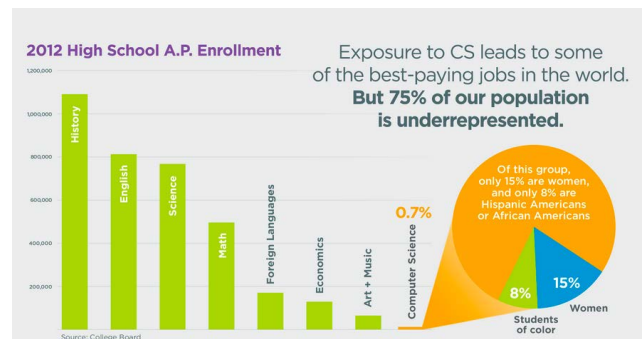
Building on the Choose Your Future CTE Job Shadow Guide, the city can target tech companies to partner with CPS schools in hosting students for a job shadow day. The City can encourage local companies to participate through events, ongoing tally of participation, and celebration, modeled after the city’s successful “Bike To Work Week” program.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

We feel this recommendation is important to address the lack of diversity in the tech field. Companies will be more open to work with teenagers, which can challenge the stereotypes about teenagers.

SUPPORTING DATA

- **Many tech companies are interested in community development and opportunities to volunteer their time.** During our visit to Groupon, we learned that in 2014, 2,500 employees logged a total of 14,355 volunteer hours.
- **Exposure to technology (in this graph, Computer Science) contributes to the lack of diversity in the tech field.**



SHORT TERM OUTCOMES (6-12 MO):

Students will be able to build their resume, learn about different career paths, and what skills they might need in the future.

LONG TERM OUTCOMES (5-10 YRS):

Students and CPS schools will build relationships for potential internship sites and other collaborations.

RECOMMENDATION 3

Out-of-School-Time (OST) tech programs should elect student representatives to go into CPS schools to talk about their experiences in tech-based OST programs.

An organization like HIVE, which acts as a hub for different STEM-based OST programs, would ask one of its partners (like Mikva) to facilitate a small training program to prepare student representatives to voice their opinion on their programs in school. The student representative would act as both a liaison for the students to hear information about the program and for the out of school programs to communicate with each other.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

- OST Programs do not have clear ways of coordinating with CPS and its students, because of this, some students have a hard time finding OST programs that provide them with opportunities not present in their schools.

SUPPORTING DATA

- **Students do not know of out of school opportunities to learn about technology.** According to our survey, 61.59% of students don't know of any out of school programs or opportunities to learn about technology, and 31.46% know of 1 or 2.
- **Young people do not have the space to share their experience about OST STEM programs.** According to the Chicago STEM Pathways Cooperative's 2013 Executive Summary, "data (about OST STEM programs) is hard to access and sometimes doesn't exist, with no defined set of metrics and no channel for students to share insights and experiences."

SHORT TERM OUTCOMES (6-12 MO):

- Student representatives of OST programs will gain the skills and confidence to present their ongoing OST projects to their peers
- Students representatives, with the help of facilitating organization such as the HIVE, will develop a toolkit for OST program participants to share their experience at school

LONG TERM OUTCOMES (5-10 YRS):

- Student representatives of OST programs will have made program presentation a broadly available toolkit for other students to use
- OST tech program participation increases due to an increase in student awareness

RECOMMENDATION 4

CPS Department of Civic Engagement and Service Learning should create a certificate for tech organizations that meet the guidelines for CPS service learning.

Service learning projects are a great opportunity to introduce students to organizations that are using technology to solve community problems. It is important to highlight opportunities that use technology as a means to serving social good. Organizations that receive this certification would be included in an online database that service learning coaches and students could go to when looking for a service learning opportunity.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

- **There is a lack of communication between out of school tech programs and CPS.** In our meetings, organizations mentioned that it was hard to find a “way into” schools. This recommendation would provide a connection between tech organizations and CPS students.
- **Students are unaware of already existing tech programs.** This recommendation will introduce students to organization and opportunities they did not otherwise know about. It will also incentivize students to work with these programs by offering service learning.

SUPPORTING DATA

- **Student know they need tech skills for their future:** 76.16% of surveyed youth we surveyed believed that they would have to use technology in their future careers
- **Students do not know how to access programs where they will gain these skills:** 61.59% of surveyed youth are not aware any programs for technology.
- **OST Tech programs are only serving a small percent of high schools students:** Only 24% OST STEM programs Serve high school students.

SHORT TERM OUTCOMES (6-12 MO):

- 10-20 organizations receive a CPS Service Learning Certificate and are entered into the database.
- Participation in OST tech programs increase.

LONG TERM OUTCOMES (5-10 YRS):

- Technology will be seen as a means for solving community problems.
- CPS will strengthen its relationship with OST tech programs.
- CPS Students will gain access to tech skills they are not getting in school.

RECOMMENDATION 5

CPS should support a BYOD (Bring Your Own Device) Policy regarding smartphone usage and create Professional Development Programs for CPS teachers on how to utilize student-owned smartphones to maximize student learning through integrating engaging tech experiences.

Many schools criminalize smartphone usage; however, in doing so we are ignoring a major teaching tool. A superintendent of a school district in Michigan that adopted this policy stated, *“Students started working more naturally in teams because they had authentic tools and reasons to collaborate. We’ve seen higher quality and quantity of student work.... Teacher-to-student communication has improved as well.”*

Learning tools on smartphones already exist, and are growing. Teachers can get immediate feedback from students with Poll Everywhere, use broadcast skills with Blogtalkradio, or create an online scavenger hunt with SCVNGR. Find more learning tools: <http://cellphonesinlearning.blogspot.com/p/resources.html>

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

Teachers don’t integrate everyday use of technology in the classroom.

SUPPORTING DATA

- **Most students are confident in using smartphone technology:** In our survey of 302 students, 96% are confident using smartphones, 91% can use Computers, and 88% use Social Media.
- **Teachers are interested, but need support in creatively using tech in their classrooms.** According to the UChicago Study, 60% of principals believe teachers should use tech to teach the students. However, far fewer believe teachers are actually utilizing tech for peer interaction.
- **Teachers are already using smartphones and it is increasing test scores:** A school in North Carolina had ninth grade students use their smartphones to access additional instructions and collaborate at any hour of the day. After one year, their test scores increased by 30%.

SHORT TERM OUTCOMES (6-12 MO):

- Teachers are trained in new tools to use everyday technology in their classes.
- Student engagement increases.
- Students learn about tools/resources that they can access in and out of school.

LONG TERM OUTCOMES (5-10 YRS):

- Teachers become more tech savvy, and can offer students a fresh learning experience.
- Students will be prepared to enter a workplace that is connected and interactive with everyday tech tools.

SOURCES: <https://www.surveymonkey.com/results/SM-MRKKW7TY/> | <http://mashable.com/2012/10/15/wireless-reach-students/>
<http://www.techlearning.com/news/0002/byod-one-year-later/62406>

RECOMMENDATION 6

Create a year-long project partnering youth tech organizations with Chicago City of Learning (CCOL) to develop a CCOL app.

Last year, the Chicago City of Learning Youth Action Council made a recommendation to CCOL to create a mobile friendly online database. We involve youth in the decision making process, now it is time to fully utilize youth talent and reach out to young techies to build CCOL's app.

CCOL can create a CPS Connection Challenge to recruit student coders. These students will be selected based on badges they have earned through CCOL tech programs. We think they should model the app after other successful city apps like ChiParks app. The guidance required to execute this project would come from the experienced CCOL staff and youth tech organizations. The process of developing the app will teach young people invaluable tech skills.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

- This recommendation addresses the lack of opportunities for youth to develop their tech skills.
- This recommendation supports youth in creating a safe learning environment, while also creating new partnerships between organizations and youth. (Assumption: Working with youth minimize their stereotypes, in the end creating future opportunities for youth employment)
- It also supports CCOL in becoming more user friendly, due to students assisting in the app development. The more user friendly the CCOL app is, the more likely students will use it.

SUPPORTING DATA

- **Young people want a CCOL App:** The Chicago City of Learning Youth Action Council already recommended that CCOL "create a visually compelling app that meets students where they are, allowing youth to access badges and opportunities anywhere. The app would also be a place to build social community and showcase who you are and what you do."
- **There is a growing talent pool of young developers.** Chicago-based programs that teach diverse young people coding skills exist.

SHORT TERM OUTCOMES (6-12 MO):

- Participating students will have been mentored and worked alongside tech professionals. They will also have a tangible product to present in their portfolio
- Students will use a youth-created app will to learn about tools/resources that they can access in and out of school.

LONG TERM OUTCOMES (5-10 YRS):

- Businesses and other youth programs will regularly use the CCOL system and app to alert students of opportunities in tech
- Students will be prepared to enter a workplace that is connected and interactive with everyday tech tools.

RECOMMENDATION 7

The city should sponsor and host a Tech Showcase for Chicago youth in tech programs with CPS, ASM, and other community organizations.

The event would be split into two parts, a tech project showcase and a college networking event. In the tech project showcase, groups would present tech-related projects that use technology to solve a community issue. Each year the tech projects will have focus on a different community issue (violence, environment, etc.) The audience for the showcase would be other youth, business and tech leaders, and community members.

In the networking part of the event, participating seniors would have the opportunity to meet representatives from colleges that have emphasized tech programs. Students would have a chance to establish relationships with colleges and participate in onsite admissions.

PROBLEM/S THIS RECOMMENDATION ADDRESSES:

- There is a lack of diversity in the tech field. We believe that this is due in part to the stereotypes of who a “techie” is. This is why we want to focus on the organizations that serve demographics currently underrepresented in the technology field, women and minorities.
- This event would promote tech talents and creativity of Chicago youth and show tech companies that youth of Chicago will be the future innovators of their industry. It also gives young people a chance to network and form relationships with leaders in the field of tech.
- Women and minorities are underrepresented in tech degrees in higher education. This event would give young people a space to learn about and foster connections with higher education.

SUPPORTING DATA

Minorities and women are underrepresented in tech companies:

- At Google, just 1% of its tech staff are black. 2% are Hispanic. 83% of workers are male.
- Women earn just 18% of undergraduate degrees in computer science. At top research universities, that number is 14%, according to the Anita Borg Institute.

Minorities and women are underrepresented in computer engineering degrees: Last year, 4.5% of all new recipients of bachelor’s degrees in computer science or computer engineering from prestigious research universities were African American, and 6.5% were Hispanic, according to data from the Computing Research Association.

Chicago youth say they want jobs in technology: 70 % of youth we surveyed said they were “somewhat to very interested” in having a career in technology.

SHORT TERM OUTCOMES (6-12 MO):

- Kick off Tech Showcase with 20 projects, 50 business and tech leaders, and 15 colleges.
- 20-30 students who participate in the Tech Showcase will receive internships.
- Chicago youth will have more access to colleges that emphasize tech.

LONG TERM OUTCOMES (5-10 YRS):

- Tech companies will use the Showcase to recruit new employees
- CPS students receiving computer science and engineering degrees will increase
- Minorities and women gain the skills, degrees, and network be competitive for tech jobs, increasing workplace diversity.

RECOMMENDATIONS

AT-A-GLANCE

Recommendation 1: The city should create a “Tech Passion Boost” grant for CPS teachers and school administrators interested in integrating technology into their students learning projects.

Recommendation 2: The city should sponsor and promote a “bring a CPS Student to work day” by facilitating partnerships with CPS schools and local tech companies.

Recommendation 3: Out-of-School-Time (OST) programs should elect student representatives to go into CPS schools to talk about their experiences in tech-based OST programs.

Recommendation 4: CPS Department of Civic Engagement and Service Learning should create a certificate for tech organizations that meet the guidelines for CPS service learning.

Recommendation 5: Chicago Public School should support a Bring Your Own Device (BYOD) Policy regarding smartphone usage and create Professional Development Programs for CPS teachers on how to utilize student-owned smartphones to maximize student learning through integrating engaging tech experiences.

Recommendation 6: Create a year-long project partnering with a youth tech organization to implement the development of a Chicago City of Learning (CCOL) app.

Recommendation 7: The city should sponsor and host a Tech Showcase for Chicago youth in tech programs with CPS, After School Matters (ASM), and other community organizations.

