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Government 3.0
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Arts in Your Space

AIYS is a model of collaboration that provides students at risk of dropping out opportunities to learn design, electronics, coding, fabrication and project planning by creating custom interaction art installations for workspaces. AIYS aims to identify best practices around engaging students and professionals through creative applied art projects designed with professionals. Students should gain both hard skills like those listed above and learn to work on teams, overcome failures, and communicate their concept to professionals.

Students in NYC are dropping of high school or leaving for college or the workforce unprepared. Formal education is not delivering relevant life skills to the kids who really need so a lot of kids are dropping off and having only wrote skills vs. practical experience.

Lessons in the classroom are too often disconnected from students lived experience and also from the expectations of the professional world they will soon encounter. Student performance in Science, Math, Engineering, Art, and Science (STEAM) are disappointing. Students living in urban area also lack access to the innovative programs in STEAM education available to many students.

Some Statistics on the State of High School Learning

- In NYC in 2012 40% of high school students didn't graduate in 4 years.[1]
- Students lack ways to meet and work with professionals to prepare for the workforce. Fewer than two in five hiring managers (39%) say the recent college graduates they have interviewed in the past two years were completely or very prepared for a job in their field of study, in general.[2]
- On the National Assessment of Educational Progress, less than one-third of U.S. eighth graders show proficiency in mathematics and science (STEM). And, the new funding required to fully fund the recommendations could reach up to approximately $1 billion per year.[3]

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[1] www.schools.nyc.gov/Accountability/data/GraduationDropoutReports/

[2] www.chegg.com/pulse

[3] Lander, Eric, and Holdren, John. Report to the President, Prepare and Inspire: K-12 Education in Science, Technology, Engineering and Math for America's Future. White House September, 2011 Washington, D.C. Retrieved from http://www.whitehouse.gov/ostp/pcast

Fortunately, both in class and afterschool programs are discovering creative ways to blend subject matter and make learning fun and authentic. The ideas and activities of the Maker Movement, an extension of the Do-It-Yourself movement with a focus on technology, are reaching more students. Yet, these programs are only accessible to students who can afford them or are able to gain entry to non-profit programs.

Another challenge students face is gaining professional experience and having exposure to a variety of careers while still in high school. Few programs offer students channels to interact with professionals on meaningful group projects and demonstrate work beyond the classroom or after school program. This lack of opportunity to get feedback from a client on a project leaves students unprepared for the workplace. The demand for funding and quality internship is far exceeds the supply. How can we prepare youth to excel in STEAM, provide them authentic learning challenges, and connect them with professionals in order to be prepared for 21st Century careers?

Overall Program Goals

- Identify organizations, schools, and business to coordinate and fund the implementation of Art in Your Space projects across NYC.
- Connect students to role models and career opportunities in the tech/innovation world to prepare students for 21st Century careers.
- Increase interest in students and businesses learn by technical and team work, and presentation skills by making interactive art project(s) that transform workspaces.
- Develop a model for after-school and in class project based learning centered around arts and technology learn and collaboration with professionals in their workspaces
- Teach core academic and creative competencies through teacher, mentor, and artist supported integrated arts projects centered on: electronics, design, fabrication, and project planning.

"We have students that want to get into game design but they don't know how to get into the industry," Melissa Birnbaum, Internship Department Head at City-As-School High School. AIYS will offer students a chance to:

- Build a project that is connected to their classroom learning and engage in complex conversations
- Apply technology: Arduinos, sensors, and programming to create an artistic project
- Work with professionals in careers of interest to design and develop the project
- Produce a blog and video documenting their work and lessons learned
- Engage in a conversation about sustainability, disposable culture, electronics and arts.
- Show leadership and presentation skills by demonstrating to fellow students, teachers, parents and their community projects.

AIYS will explore the possibility of businesses sponsoring the interactive art project. Businesses will benefit by vetting a pool of possible interns and employees. They will also get to share their skills and knowledge directly with students over the course of 12-week program. This arrangement differs from workplace tours, casual mentoring, and internships in several ways.

- 2-3 staff who are deeply interested in working with students on an interactive art installation can committed for a relatively short period of 3 months
- The business gets the benefit of having an art piece that is designed to engage and enliven the workplace.
- Employees not working directly with students can easily come and go to engage with the project while students are in the workspace.

The Pilot Program

The 12-week after school program will accept 10-12 students with proven interest in art and technology. Sessions will last 2- 2 ½ hours and be held at City As School. Throughout the design cycle students will travel to the professional partner's workspace, artist workshops, Maker or hacker spaces, design firms, and/or other relevant locations. An open weekend workshop held at one of the above listed locations may also be offered.

Student time will primarily be spent working in teams with some time reserved for exploring individual projects. All projects should meet the standards laid out in the challenge and be documented using photos, video, and written descriptions of how the project developed. Students may use sensors, motors, computer programming, and construction techniques to create the interactive art piece.

Eyebeam will lead the design of a loose curriculum working with teachers, students, mentors from the workspace, and a grad student co-teacher. Lesson topics may include: electronics, programming, design, fabrication, project planning, and other areas of student interest. Themes for projects in workspaces could be: music installations, presenting data or environmental or social justice.

AIYS will collaborate with City As School to recruit professionals who commit 20 hours to support project based art/technology learning and can provide access to a workspace and other employees. A basic program outline with expectations, benefits, examples of projects, and student work will be presented to potential partners.

Students will complete applications to join the program. Then go through an orientation. In line with Project Based Learning best practices students will have interdependent roles, team rewards, individual accountability, and agreed upon benchmarks.

Employers will move through a Welcome Process for Workspaces.
1. Initial contact and send materials about the program.
2. Deliver a presentation to employees or have HR suggest interested employees to be mentors for the project.
3. Discuss and agree upon time commitments, skills, scheduling, role, and goals of the employee mentor.

The Maker Eco-system in NYC

AIYS is at it's essence a connecting program. The model is well suited for being implemented by a large organization with experience creating and nurturing networks.

The key partners in the project will be:

1. An organization that provides funding and tools and support to facilitate the connection between an after-school art/tech program and business
   Department of Education's Digital NYC, New York City Economic Development Corporation, and/or Mozilla Hive Grant
2. The after-school programs will be responsible for supplying instructors, curriculum design, materials, and possibly a site.
   Eyebeam, Makerstate, Beam Center, Mouse Corps, Kickflip, World Up, Dream Yards, The Makery, Robofun, Iridescent,
3. Universities will supply graduate or undergraduate students to support the after-school program with their duties.
   NYU Interactive Telecommunications Program, Gallatin, Steinhardt, etc., Design for Social Innovation at the School for Visual Arts, Parsons at the New School, EDlab at Columbia, etc.
4. The business partner could be a new relationship or come from an existing partnership with the school, after-school program, university, AIYS network or another source.
   - Co-working spaces and inncubators - Alley NYC, Centre for Social Innovation, Green Spaces, etc.
   - Design companies - BBMG, IDEO, Frog, Fahrenheit 212, Cooper-Hewitt
   - NYU related companies - Brooklyn Research, Project Noah, Foursquare
   - Burner contacts - Kevin Merrit, Dana Albany Y.E.S Project, Arch NYC, etc.

Theory of Change

AIYS project will bring together programs that use best practices in teaching and learning to explore advantages of partnering with professionals on an authentic interactive art project. The central premise of the project is that when students are provided access to interesting technology and tools, capable and passionate instructors, an authentic artistic and creative challenge, and incentive of building a project that recognizes the groups achievement students gain skills and experience to be successful in 21st Century Careers. Three theories of change guide the AIYS model:

1. Project Based Learning - In Project Based Learning (PBL), students go through an extended process of inquiry in response to a complex question, problem, or challenge. While allowing for some degree of student "voice and choice," rigorous projects are carefully planned, managed, and assessed to help students learn key academic content, practice 21st Century Skills (such as collaboration, communication & critical thinking), and create high-quality, authentic products & presentations.[4]

…PBL increases long-term retention of content, helps students perform as well as or better than traditional learners in high-stakes tests, improves problem-solving and collaboration skills, and improves students' attitudes towards learning.[5]

2. Arts integration is instruction that integrates content and skills from the arts -

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[4] http://www.bie.org/about/what_is_pbl

[5] www.edutopia.org/pbl-research-learning-outcomes

dance, music, theatre and the visual arts - with other core subjects. Arts Integration occurs when there is a seamless blending of content and skills between an art form and a co-curricular subject.[6]

"… integrated arts units developed in CAPE partnerships have had cognitive, affective, and social benefits for their students, perceiving their students to be more motivated to learn and more engaged in learning, that they participate, collaborate, and model more, and that they are more confident learners who comprehend, retain, and transfer more information and skills."[7]

3. The professional collaboration projects benefit students by allowing them to get similar benefits of a competition with critique and recognition. In addition the type of work relationship proposed by AIYS may deliver similar benefits of worksite tours, job shadowing experiences, and internships. The shift here is in how students spend time with professionals and the allocation of that time to a specific project for a period of 12 weeks.

Why will this work?

This program will work only if is able to consistently attract high quality instructors, mentors, and their ability to set the stage for learning with clear goals and constraints that allow students to create. AIYS will learn from organizations in the educational and workforce development fields. For example

PENCIL has provided thousands of New York City public school students with new educational opportunities to help prepare them for a productive future. We've done this by leveraging the extraordinary talent, skill, and energy of the city's business and civic community to support the needs and efforts of educators in some of the city's most underserved schools.[8]

AIYS will look to Mozilla Hive and member organizations to develop guidelines, timelines, and applications for future collaborations. By using a "fishbowl" approach to share learning with other programs and learn from rich tech/art program eco-system AIYS will be able to improve with each collaboration.

Next Steps

Schedule meetings with City As School and Eyebeam to discuss
1. Establish a project timeline and curriculum with partners for target launch March 2014
2. Planning or reviewing goals and objectives
3. Developing and reviewing budgets
4. Seeking funds
5. Developing administrative systems
6. Developing program components
7. Training program staff

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[6] http://www.artseveryday.org/Educators/detail.aspx?id=212

[7] *Learning Partnerships: Improving Learning in Schools with Arts Partners in the Community (1999)*

[8] www.pencil.org

8. Implementing program
9. Publicizing program successes
10. How expenditures are approved and documented between teams

Create a partnership agreement
1. Mission and Shared Values
2. Roles and responsibilities
3. Outcomes
4. Schedule time for reflection

Promote the partnership publicly
1. Social Media
2. Press Release
3. Partner Network
4. Schools

Identify shared values for the two organizations
1. Complete values questionnaire
2. Coordinate meetings with Dana and artist

Connect with government agencies to identify specific grant proposal
1. iZone
2. Digital Ready, Department of Education
3. Workforce Training

Form Advisory Committee
1. Students Program director
2. Business partners
3. Principals
4. School district leadership
5. Leaders in art and tech communities
6. Marketing, finance, and education experts.

Establish methods of communication
1. Google suite
2. Box
3. Asana
4. Other

Measuring Success

Metrics will be defined by the goals of the two after-school programs involved. A survey for students covering skills, attitudes, and other criteria will be designed using best practices with support of professors at NYU. Placements in internships and completion of project portfolios will be two other measures of success.

Skill surveys persistent, courage to try new things, and creative problem solving skills
Number of students in internships
Students who stay in school vs. students who drop out

Outcomes: (tangible and intangible)
Write indicators (define kinds of indicators and refine).
Assemble evaluation plan

Define evaluation questions
Assign evaluation tasks

Budget

Creation of the budget will be a joint effort requiring submission of line items from City As School, Eyebeam, and AIYS.

Examples of materials to be included:
Arduino processor, breadboards, electrical components, wood, fabrics, hardware, etc.

Include class time, coordination time, planning time and transportation time for community artists, teaching artists, program coordinators.

Funding

AIYS will explore many options for funding at this stage. The program may be launched as a new organization or implemented by a school or existing non-profit. Here are some of the ways the AIYS could be funded in the short and long-term.
1. Grants from foundations are the most accessible form of early funding. Three funding sources AIYS will target initially are:
    a. Digital Ready - a New York City Department of Education Initiative
    b. Mozilla Hive - a connectivity organization and network that funds many of the programs AIYS will approach for partnerships
    c. New York City Economic Development Corporation - Fund a variety of programs and projects related to technology and workforce development
Each of these organizations would be a strong choice to run AIYS in the future.
2. Fundraisers within the Burning Man, maker, other artistic and technology focused community is another option for funding a pilot project.
3. Crowdfunding sites like Kickstarter, Indiegogo, and Rally have all served as platforms for similar projects to get funding. These sites could also be used for securing funding for the above programs.
4. Company sponsored projects is another form of funding that can be developed. A program in Boston, Artists for Humanity sells student artwork and design services to provided income for students and the organization.
5. University funding can be sought to pay graduate students and to do research on this project.

Long-term goals
The long-term success of AIYS relies on the programs ability to attract skilled and passionate partner programs, teachers, and businesses that inspire students to take risks and design amazing art installations. Therefore, the marketing of the student projects on-line, at industry events, in

the business community, and government and non-profit world is essential. AIYS will explore partnering with youth programs that have expertise in video production such as Reel Works and on-line platforms to promote tech/art like Vice's Creators Project, and newsletter like EdSurge. The vision is that every organization that becomes involved with AIYS takes some ownership over the program through their project. As the esteemed founder of Ashoka, Bill Drayton put it, "Everyone has to be a changemaker, because if you aren't able to contribute to change, you're not going to be a player."

Progress to date

At the time of this writing there is interest from Eyebeam to partner with City as School to launch a pilot this spring through Digital Ready. Many students at ITP have expressed interest in co-teaching the program. AIYS is also, discussing partnerships with Makerstate, an after-school program that can offer pop up maker spaces and Beam Center, which is already funded by Digital Ready. Administrators at Alley NYC, a tech centric co-working space have expressed interest in hosting AIYS. This prospect is exciting because of the variety of start-ups that are housed in one space and the potential for creative involvement from many companies.

What's left to do? What's unresolved?

A big unknown for AIYS at this point is whether the project needs to move forward as a business or a non-profit or be a project that is incorporated into an existing organization.
Will insurance be needed for students to visit the workspace?
Who will own the art project and where will it live?
Reach out to NY Tech Arts and Tech on Friday Meetup's to present the idea to mentors.
Connect with Mozilla Hive Researchers Rafi Santo and Dixie Ching about how to work on a study for this project.
How do you credential the learning that is being done in the program?
  • Design for America - credentials- students do this process and curriculum for documenting there work.
  • How can we give accreditation for learning at a high school learning
Can students be tasked with using recycled or donated materials to supplement purchased resources?
Develop and send surveys to businesses with proposal written by students to identify new project themes.

Students need to have the ability to create in the world they live in.
Students need opportunities to interact with professionals to practice design and technology skills in order to be prepared for the work in creative fields.
Art in Your Space prepares students at risk of dropping out for 21st Century careers by building interactive art projects with professionals for their workspaces.