The Muse Initiative
Project Proposal
16 April 2015
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How Might We…?

**How might we enhance goal-setting and teamwork skills in at-risk and economically disadvantaged inner-city students?**

**Who?** Economically disadvantaged children in metro Atlanta do not have the opportunity to get involved and engaged in extracurricular activities that enhance their academic ability. “It is clear that participation and success are strongly associated as evidenced by participants' better attendance, higher levels of achievement, and aspirations to higher levels of education.” (IES, 1995)

**What?** Students from lower income levels are handicapped in life, because “higher levels of economic disadvantage translate into lower levels of student achievement, and vice versa.” (ARC, 2014)

**When?** A variety of social, school and family-related circumstances have been affecting children since public school was first required by law. Since the 1970s, studies have been done on the causes of students dropping out of school and they focus on both the high school and high school level. (National Dropout Prevention Centre/Network, 2015)

**Where?** Children drop out of school and lose engagement in their education in schools everywhere. However, we are focusing on Atlanta because ⅔ of the public schools in metro Atlanta are 90-100% economically disadvantaged and have a CCRPI score of less than 31%. (Neighborhood Nexus. 2012) The College and Career Ready Performance Index (CCRPI) is a platform that measures and “promote[s] college and career readiness for all Georgia public school students.” (Georgia Department of Education, 2014)

**Why?** See “Significance” section below.

**Significance:**

**What are the costs to society without fixing the problem?**

In most cases, at risk and economically disadvantaged high school students come from families of low socioeconomic status, and parents did not go far in their own public education. These students are also likely to drop out of high school (dropoutyouthprevention.org). These two facts combined show a cycle of lower class students dropping out of high school and raising families in poor socioeconomic conditions only to have their own children drop out of public education and repeat the cycle.

According to Amos (2009), “the average high school dropout will have a negative net fiscal contribution to society of nearly $5,200,” as opposed to the average high school graduate, who contributes a net positive fiscal contribution of $287,000 between the ages of 18 to 64.
**What are the possible causes of the problem?**

The National Dropout Prevention Center/Network has compiled a list of factors that put youth at risk of dropping out. They are separated into four categories: school related, student related, community related, and family related (findyouthinfo.gov). Some of these factors coincide with the nature of economic disadvantage (high mobility due to job insecurity, less parental involvement for various reasons, and lower opportunity due to cost restrictions). (Gulik, 2012; National Dropout Prevention Centre/Network, 2015).

**How would society be improved if this problem were better addressed?**

A better solution to this problem would breed both long- and short-term benefits to society. Long term improvements include the fact that the average high school graduate contributes a net positive fiscal contribution of $287,000 to his or her community between the ages of 18 to 64 (Amos, 2009). Short term improvements include lowered student engagement in various risk behaviors and improved academic performance according to an article from findyouthinfo.gov on the effectiveness of positive youth development programs (findyouthinfo.gov).

The answer to these questions gives three important reasons as to why this problem is important:

1. There is a continuous cycle in the low socioeconomic class of past high school dropouts raising families in poor economic conditions and whose children are also dropping out of high school and repeating the cycle (dropoutyouthprevention.org).
2. At risk and economically disadvantaged students tend to have high dropout rates. High school dropouts contribute on average a net negative fiscal contribution of $5,200 to their community from the ages of 18 to 64 (Amos, 2009).
3. It has already been shown that keeping students engaged in positive activities outside of school correlates with those students performing better in school in the long term (findyouthinfo.org). More effort needs to be done to provide and engage students in these kinds of activities.

**Stakeholders:**

**Teachers involved in the lives of economically disadvantaged students**

Teachers see the results of academically disinterested and otherwise preoccupied students. The involvement, engagement, and enthusiasm of the students they are teaching greatly affects their success as teachers and their ability to do their jobs well. Research from the American Psychological Association details that motivated students who are autonomous in their learning are therefore more hungry to learn, reducing the frustration teachers feel from their unmotivated students(apa.org).

In most cases, teachers desire the ability to be flexible and allow students to pursue their own interests in the school environment, brought on by student’s motivation to learn, so will need to become open and interested in any learning initiative their students take up.

**Students living in economically disadvantaged areas**

Students living in these situations are subject to changes in the school system, worries at home, the pressure of their peers, local culture, and the lack of resources, which contribute to low interest in school. Improving students’ attitude towards school will greatly improve their
prospects later in life, allowing them to gain higher education and a better quality profession, pulling them out of their disadvantaged situations.

**Parents of the economically disadvantaged students**
Parents could easily be a source of the issues shown by these students. If parents are uninterested in education, it’s likely that their student will be uninterested as well, because parents are often set the example for students. Parents will also be key in the change of these behaviours, giving support and mentoring the student at home. A high level of parent involvement consistently reduces involvement in risk behaviours in their children (Kliwer, et al. 2006).

**Board of Education - Atlanta Public Schools**
The board of education of any district containing economically disadvantaged and at-risk students has the most power to change its students’ situation academically. It also has a responsibility to improve the schooling of its students to the best of its ability. The methods may include seeking outside help for the improvement of the school system, but nevertheless, school systems are constantly changing and evolving to decide what is best for their staff and their students. In 2009, because of the Atlanta Public Schools cheating scandal (Flock, 2011), the APS system was damaged to a large extent, with teachers and principals being responsible for cheating on statewide standardized testing. APS has a lot to handle with repairing the damage of the scandal, increasing academic interest in students simply adds another issue to their list of items to repair.

**Context and Existing Solutions:**

It has been shown that high-quality afterschool programs have an effect, but there is a crucial issue. As in most cases, the issues of funding and human capital are the prominent causes of restriction for any organization. Two examples of these programs, from our own observations, are the Boys and Girls Club in Metro Atlanta and the Georgia Tech CEISMC program, which represent opposite ends of the restriction spectrum. At the Boys and Girls club, a lack of manpower often leads to kids being set adrift, confined to one place but intellectually stagnant, making little academic progress. With sometimes less than 5 volunteers to a room of 50 or more students, there are simply not enough resources to entertain and engage a large room of students. Conversely, at the Georgia Tech Center for Education Integrating Science, Mathematics, and Coding (CEISMC), the problem is not effectiveness in education, or student engagement, but rather the massive load on the existing human capital and resources required to perform these activities. The LEGO mindstorm program itself, a robotics project that CEISMC works with, requires entire teams just for deconstruction as well as rooms and rooms of storage space, making widespread acceptance and utilization nearly impossible.

An example of an overall effective program is the 4-H program. It has been shown that at students all over the country have benefitted from being a part of a local 4-H program (findyouthinfo.org). The only issue with 4-H is its lack of presence. The program is not found everywhere.
Why is it still a problem?

There needs to be more being done for students that do not have opportunities for engagement readily available. Current initiatives are not offering their services in enough places. The limitations placed on programs that attempt to affect students’ lives overcome their positive influences. These limitations unfortunately include a lack of funding and human capital, both of which are not easily acquired. This creates a disparity in the number of economically disadvantaged students and the number of engagement opportunities available to them.

Goal:

We are focusing on enhancing goal-setting and other problem-solving skills in economically disadvantaged inner-city, high school underclassmen. Our research has indicated that improvements in this area result from student exposure to high-quality afterschool programs that offer engagement opportunities. With this in mind, we plan to create an outreach program in an Atlanta high school that will give students the opportunity to work on sustainability issues. We chose sustainability as the avenue to enhance goal-setting and teamwork skills because of the relevance it has in today’s society. The high school students will participate in a 12-week program similar to Grand Challenges where they will analyze a sustainability problem provided to them by their school. Students will have a trained Georgia Tech student as a facilitator to guide them as they learn about their problem space, develop a solution, and create a proposal for their school’s administration.

Objectives:

Our mission is to provide an engaging sustainability program for high school underclassmen that builds positive life skills. We propose to do this by completing three major objectives.

Establish a meaningful presence at Georgia Tech.

Background:

Approaching Atlanta public high schools without the legitimacy of a long-running program would be unrealistic. Therefore, in order to gain credibility in the eyes of Atlanta public high schools, we plan to start our initiative as the outreach branch of an existing club on Georgia Tech’s campus. With the support of an existing and accomplished college organization, we will be able to approach Atlanta public schools with the weight of an established name, accountability, and a history of successful events. This partnership will also have the added benefit of the use of the existing sustainability club’s knowledge, resources, and manpower.

Establishing a meaningful presence at Georgia Tech also involves developing human infrastructure that can sustain the potential growth of our outreach program. Initially, the requirements for human capital will small (the initial target group is a single school with a small group of students). However, future infrastructure, including expansion within the partner club and integration of other high schools, will be necessary in order for our program to continue beyond the founding members.
Methods:
We will contact various sustainability clubs on Georgia Tech’s campus in order to integrate into or develop an outreach program for high school underclassmen. Students Organizing for Sustainability (SOS) is the current target organization. In addition, we will seek out the sustainability branch of Georgia Tech’s undergraduate SGA for insight from its members on the logistics of an outreach program.

After establishing a partnership with a sustainability club, we will advertise our outreach program to Georgia Tech’s student body through electronic surveys, emails, fliers, etc. to gauge student volunteer interest and to create a larger pool of human infrastructure to work with in the future.

Outcomes:
We hope to be partnered with a well-established club by the middle of the summer of 2015. We expect this partner club to have suggestions on the development of our program as well as suggestions for possible solution spaces for sustainability problems at the high school level.

Initially, large numbers of volunteers will not be necessary, as there will not be high demand for them in this small scale trial run. We expect that the development of the outreach program and its successes will lead to larger volunteer numbers.

Anticipated Problems:
There may not be any sustainability groups on Georgia Tech’s campus that want to participate in high school outreach. These established groups, like SOS, are very focused on improving Georgia Tech’s campus and they may not be interested in helping to develop high schools sustainably. If this becomes the case, then we will have to change our focus from promoting sustainability to promoting something else, such as STEM education, and find a related club on campus that is willing to or wants to participate in high school outreach.

Assuming we partner with a sustainability club on Georgia Tech’s campus, there may be issues with power/directional conflicts, which must be balanced. We understand that changes in direction are not necessarily a bad thing, but we want to make sure that the specifics of the program we implement retain our initial focus (teaching goal-setting and teamwork while maintaining students’ genuine interest in the problem).

Our greatest human infrastructure need will be volunteer facilitators. One of the requirements of being a facilitator in our program will be providing personal transportation to the high school where our program is implemented. Although this limits our potential pool of Georgia Tech volunteers, it is currently the only way the facilitators will be able to meet with their high school student groups.

**Develop a training method for Georgia Tech student facilitators.**

Background:
It is important that the Georgia Tech student volunteers understand that the purpose of this project is to empower the students. The entire process is based on helping the students build positive life skills. This should not be a project where the facilitator dictates what happens and when it happens. It is, of course, expected that the facilitators will give sufficient guidance, but the students are the ones that should be doing the work. It will be crucial for Georgia Tech volunteers to understand the balance required to correctly lead these groups.
Methods:
We will research and develop methods of facilitation in order to create a training program that effectively passes on the desired characteristics of our outreach program’s facilitators. This training will draw from proven educational models as well as the in-classroom experience of the first round of facilitators (the founding members of the team). We will also talk lean on educational experts at Georgia Tech and in the surrounding community.

Outcomes:
By the Spring of 2016, we will have a system in place for training new members to facilitate high school student groups. This outcome will be based on the field experience that we gained in the Fall of 2015, as well as the feedback from the educational experts.

Anticipated Problems:
No two schools or students are the same, so defining a training process that works across a wide range of schools and students will be difficult.

Successfully coordinate with one high school.

Background:
The goal of our sustainability outreach program is for student groups to initially solve sustainability problems that their school’s administration or that their supervising faculty member thinks are important. Because our program plans to establish a junior chapter of a sustainability club, we expect that the projects will be focused on the school’s environmental impact. This means that in order for our program to be successful, we will need to coordinate with a supervising faculty member in order to give the high school students realistic problems to solve and to help them set attainable goals. It will be vital that we get feedback from the supervising faculty member on the guidelines of our program, as this person will be the one that interacts with the participating students the most.

The facilitators will also need to find a way to meet with their student groups at least once a week as well as a way to give them continuous feedback as they go through the process of solving a sustainability problem. This feedback and guidance is the primary purpose of the Georgia Tech volunteer facilitators and it is very important that they actively and continuously give it to their high school student groups so that the supervising faculty member does not have to put in the extra work of supervising and working with an after school club. The Georgia Tech facilitators should be heavily involved in our outreach program so that the responsibility of running the after school club does not affect the supervising faculty member’s regular work.

Methods:
There will be continuous communication between the facilitators and the supervising faculty member at the high school through email. Initially, the emails from the faculty supervisor will contain project ideas and feedback on the guidelines of our program, but as students progress through the program, the emails will contain information on the general progress of each student team. The emails from the facilitators will have their resulting feedback from reading the information that the supervising faculty member provides.

Facilitator transportation will have be done through personal vehicles, which will be a requirement that prospective facilitators will have to meet.
Outcomes:

Dr. Usselman, our advisor, is confident that finding one economically disadvantaged high school with one faculty member that wants to create a sustainability club will not be an issue. The desired outcome is developing a working relationship with one high school, either through the administration or the supervising faculty member, so that the program will be able to continue at this high school. Ideally, our name will spread among Atlanta public schools so Georgia Tech based human infrastructure can be utilized.

Anticipated Problems:

We do not know how many students will be interested in joining a sustainability club. Even if there are enough high school students that join our program to form one team, there is the problem of each group finding a time once a week to meet with their facilitators. These students will likely be at the top of their class since we are not looking to motivate the uninterested students but rather develop/reinforce positive life skills in those that are already interested. Usually, students in the top of their class are involved in other activities that take up their time after school. We cannot anticipate the schedules of the potential students that will join the after school sustainability club, and even if there is a time that these students can meet, their facilitator might have some time conflicts that cannot be avoided because of their class and work schedules.

Transportation will also be an issue for the high school students and the Georgia Tech facilitators as well. Getting the high school students home after meeting with their facilitators is a very real issue. Students normally take the bus home in economically disadvantaged areas, and if they are involved in other afterschool activities, their parents usually go out of their way to pick up their children. With another activity, parents will have to go out of their way on an extra day or at a different time to pick up their students. On the facilitator side, not everyone at Georgia Tech has a vehicle, and limiting the number of people that can be facilitators to those that have cars will cut our pool of potential facilitators.

There is also the issue of feeding the students and the possibility of community resistance. Dr. Usselman has mentioned that having food for the participating students is one of the reasons that many after school outreach programs fail. If we cannot provide food and/or transportation for students participating in our program, there will not only be hesitation from the school’s administration, but also resistance from the students’ parents to allow the program to be implemented at their school.

Design an effective outreach program.

Background:

The structure of the program needs to be one captures and maintains student interest over the course of 12 weeks. Dr. Barbara McCombs from the University of Denver has compiled an extensive amount of information on classroom models that keep students interested and engaged during the school day. We plan to use Dr. McCombs’ research as a model to create our after school program (McCombs, 2015).

Methods:

We will set clear standards at the beginning of the program. In an orientation-style presentation, we will outline the details of the deliverables that we expect the students to
complete while they are working on their projects. These deliverables are a Research Document on the sustainability problem space that the students will choose, a Solution Document that the students will create with the feedback from their supervising faculty member and their Georgia Tech facilitator, and a Presentation Document for the school’s administration that proposes a solution to a sustainability problem. These documents will help the facilitators and the faculty supervisor track the students’ progress through the program. With these documents and the faculty supervisor’s updates on the students’ progress, we will be able to see the growth of the students’ goal-setting and teamwork skills.

In addition to setting clear standards for the students, we will work with the faculty supervisor to provide meaningful project choices to the students. Dr. McCombs says that students “will develop a sense of ownership over the learning process” if they are given choices that clearly relate to the purpose of their school learning objectives. In terms of our after school club, giving students meaningful project choices that are clearly related to the sustainability of their school and that noticeably impact them in the short term will give them a sense of ownership over the process.

The last component of the program that is necessary for the students’ success is constant and clearly articulated feedback from the facilitators and the faculty supervisor. As the students work through the program, conduct research, and develop a solution, they will need a lot of guidance to make sure that they are on the right track to creating a solution that is realistic and effective. Feedback will come primarily from the facilitators through the emails that they will send the faculty supervisor, and the faculty member will relay a lot of the groups’ performance data to the facilitators. We will make sure to give praise and constructive criticism when they are due. The feedback should give students a direction in which to work, not hinder them from moving forward.

Outcomes:

With clear standards, meaningful project choices, and constant and clearly articulated feedback, the students will ideally be comfortable going through the process of solving their sustainability problem. Being comfortable first means that students understand what is expected of them, which can be gauged by the kinds of questions that they ask about their work.

Second, being comfortable with the process means that students will be working on a project that they are genuinely interested in. This factor can be gauged based on the work that the students produce while working on their deliverables. Depending on each group’s initial progress and the observations of the supervising faculty member, the facilitators will be able to determine if their groups are interested in working on their chosen sustainability problem. If, in the beginning stages of the program, it is seen that a group is not attracted to their problem space, the group members will be encouraged by their facilitator to pick another project or to find another angle on their current project in order to make it interesting. It is very important that each group is interested in their work, as the premise of the outreach program is building goal-setting and teamwork skills, which is easiest to do when students are interested in the work that they are doing.

Being comfortable thirdly means that students have access to clear and helpful feedback that can help them progress. Students should be able to take the feedback and do something with it to improve their projects. Lack of action on the part of the students, assuming that they are interested in their projects, will mean that the feedback they are given is not clearly articulated. Feedback will be tailored to the progress of each group. If a group hits a roadblock during the
creation of their solution, the facilitators will have to work to make sure that the setback does not obstruct the overall progress of the group. If a group is not progressing, then the facilitators will offer encouragement and new angles while emphasizing the use of goal-setting and teamwork to move forward.

**Anticipated Problems:**
We cannot control the interest of the students that get involved in our program. The structure of the program is meant to keep the students involved in the process from the beginning to the end, but the decision to continue ultimately lies with them.

**Research Team:**

As we move forward with our research and objectives, the Muse Initiative will have five members. Because our team is smaller, we feel that each member will have more opportunities to stay engaged and involved with the initiative. Each of the roles outlined below will require full commitment that we believe will sustain a healthy group dynamic and work ethic.

**Member #1: Networking**
This member will have the ability to act as a representative for our team when communicating with the Boys and Girls Club, CEISMC, and high schools in Atlanta Public Schools. In order to be able to get access into after school programs, this team member will need to be prompt, responsive, and receptive so that we can make the connections and partners that we need to fulfill our objectives. This member will be involved with surveying and contacting interested students at Georgia Tech and contacting schools in Atlanta to set up meetings.

**Member #2: Educational Knowledge/Experience**
This member will have experience working with kids, and teaching a subject. They will have some classroom experience and will advise our team as to how our ideas will fare in a public school environment. They will be involved in the ideation process, and interpreting research to come up with a feasible and effective solution.

**Member #3: Research**
This member will serve as the research platform for our initiative. Although each member of the group has and will have to perform their own research, this member will oversee all the research conducted, both from outside sources, and studies we conduct ourselves. When, we survey the Georgia Tech population, this member will compile the results in a usable way, and when we present ourselves to potential partners or Atlanta Public Schools, they will ensure that we are credible.

**Member #4: Publicity and Implementation**
This member will be in charge of overseeing the website and outward facing aspects of the organization, as well as production of publicity and educational materials. For this member, excellent communication and design skills will be absolutely mandatory.
**Member #5: Organization**

This member will ensure that we are organized in our attempts to organize the students and volunteers. In order to provide a reliable program to these students, we will need to be reliable ourselves. They will be involved in interacting with Tech volunteers and organizing the student groups. They will also play a role in ensuring that the students have access to the application and are able to contact their mentors.

*Dr. Marion Usselman* has also agreed to partner with the team as we proceed. As the director of the Center for Education Integrating Science, Mathematics, and Computing (CEISMC), she is already involved with various public schools in the Atlanta area and has experience with creative and implementing after school programs. She also focuses her work and research on low-income and economically disadvantaged students.

**Timeline:**

*Establish a meaningful presence at Georgia Tech.*

Summer 2015

*Develop a training method for Georgia Tech student facilitators.*

Summer - Fall 2015

*Successfully coordinate with one high school.*

Summer - Fall 2015

*Design an effective outreach program.*

Fall 2015

**Budget:**

Materials and Supplies:

- Padfolios for facilitators containing the MUSE curriculum and essential supplies for recording their interactions with student teams
  - $40
- T-Shirts for core Muse members
  - $125
- Information packets containing curriculum and information about Muse
  - $110
- Facilitator advertisements, including (but not limited to) flyers, banners, posters, advertisements on campus
  - $50
- Food for a single facilitator training session and each weekly student meeting
  - $50/week, 12 weeks
  - $50/training session

Equipment:

N/A
Services:
   N/A
Travel:
   Reimbursement for personal travel to and from schools in the metro Atlanta area, limited to a 15 mile radius
   $15/week, 12 weeks

**Expected Outcomes and Future Directions:**

After two years, we expect to have implemented the outreach program across multiple high schools in the Atlanta area. By utilizing volunteers at Georgia Tech, the Muse Initiative’s outreach program will be able to reach students quickly and easily while helping them serve their school communities.

With that future in mind, it will be crucial for us to continue to foster relationships between Georgia Tech and Atlanta high schools. Dr. Usselman will continue to be an important catalyst for expansion.
Works Cited


