

**Youth Empowerment through Math Literacy:
An Analysis of Young People's Project at Hamilton College**

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Abstract: Young People’s Project is a grass roots youth organization that focuses on math literacy and social justice for local disadvantaged students. Hamilton College students are trained to develop and facilitate workshops to students in the Utica area middle schools. Each week Hamilton College students travel to the Donovan Middle School in Utica, NY to facilitate these workshops. Young People’s Project strives to use math literacy as a tool to develop young leaders with the opportunity to reach their full human potential. This study finds that in practice, the students gain math skills and consistent support from Hamilton College students. However, some students who dislike math experience boredom and do not use all of the program’s resources fully. The hands-on teaching style, fun activities, and mentorships capture the students’ attention and make them more willing to participate and use the resources of the program. I propose that the program could be strengthened if Young People’s Project maintains a balance between the math and hands-on activities to sustain the program’s attractiveness for youth.

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Introduction

Youth organizations have always been a big part of my life. During high school, I was a junior teacher for literature and math at an academic summer program. Studying abroad in Ecuador, I taught English and poetry to middle school and high school students. It made perfect sense that in spring 2009, I jumped at the chance to help start Young People's Project (YPP) at Hamilton College; YPP is a math literacy and social justice program associated with the Algebra Project. YPP at Hamilton College works with local disadvantaged 6th to 8th grade students from the Donovan Middle School in Utica, NY. Along with a small group of fellow students, we recruited teaching volunteers from Hamilton College and raised \$45,000 to sustain the program.

YPP was founded in 1996 by young graduates, including Omo Moses, of the acclaimed Algebra Project, founded by Civil Rights leader Robert Moses '56 in Jackson, Mississippi. The organization's mission is to develop students as math literacy workers and to promote systematic educational change by engaging students in an effort to address deficits in local disadvantaged school systems. Since then, YPP has established seven other city sites. YPP seeks to use math literacy as a tool to develop young leaders and organizers who will then radically change the quality of education and life in their communities so that all children have the opportunity to reach their full human potential. YPP is built on four key values: peer to peer knowledge transfer, a strong sense of long term purpose, a strong sense of freedom, and individual change as an avenue for societal development.

The pilot program of YPP at Hamilton College began in Fall 2007, when Hector Acevedo, a graduate of the Cambridge YPP site and a Hamilton College student, created partnerships within the Utica community and the Study Buddies program. Now YPP at Hamilton College is the first successful campus site and has created a blueprint to be used by

other interested colleges. This has been the start to a “YPP @ Model”, where other colleges across the nation have established a YPP campus site with the goal of bridging a gap between communities and colleges. At Hamilton College, every Sunday YPP has a two-hour training session to prepare for outreach. Once a week, Hamilton College students go into Utica to teach math concepts and then test whether the students understand material by playing educational games with them. In the process, we form close relationships with the students.

This year I am teaching 6th grade girls and 7th and 8th grade boys. It has been a pleasure to see the students’ growth since the creation of the program. The first year we started the program, some of the students were not interested in math, misbehaved, and were uncomfortable opening up to strangers, especially because it was a program that they had never heard of. However, over time students warmed up to YPP and connected with us because we came back every week. They begged to play certain games and were excited to attend the YPP Hamilton College’s Math Bash, a celebration and obstacle course game competition that tests their math skills. YPP believes teaching students how to solve math problems and showing their active role in education through peer-to-peer teaching, helps build up their confidence and reveals the influence they can make within society. This vision stems from the idea that students are armed with a new understanding of mathematics and with a new understanding of themselves as leaders, participators, and learners. Robert Moses (2001) explained that this network of students working across the nation are “young people who catch a consciousness that for their generation; math literacy can become as important as an organizing tool for education and economic access as the right to vote was for political access for Blacks in the 1960s” (173).

While working with the program for two years, I have learned that change comes in small doses. What may seem like a small action, for example when a student who rarely speaks

explains to the group what a prime number is or when a student exclaims that she wants to go to college, is actually an exciting feat. Trying to understand and work against the academic achievement gap within the American education system can be a daunting task, as students from different backgrounds such as race, socioeconomic class, etc. navigate public, private, and charter schools. However, I do see a bond created between the Hamilton College students and youth—especially when the youth can see a reflection of themselves in the volunteers, whether it be a common interest, race, or class. Bonding leads to building genuine experiences and a sense community.

For this project, I conducted a study to assess the educational impacts of the program at Hamilton. Programs like YPP offer educational opportunities to inner city youth with the goal of inspiring students to reach their full human potential. I evaluated the program by investigating the students' attitudes towards YPP and whether it was an empowering educational experience for them. This study indicates whether the mission of the program translates into the real life of the students; of course, it is not clear what it will do for them in the future. This research can relate to educators, grassroots activists, and education policy makers because it explains how program structures, peer and mentor relationships, educational methods, and curriculum affect inner city youth. I hope that my study contributes to the discussion of how programs and methods can be effectively implemented to help empower inner city youth and achieve academic success.

Literature Review

In order to evaluate the Young People's Project program at Hamilton College, it is important to understand the sociological framework of education, as well as acknowledge the historical work of educators and activists that set a precedent in educating "the oppressed." My

research draws on the research of Freire (1970) where he links education to social change through a pedagogy specifically tailored for the oppressed within society. He refers to education as a means to liberation, as I investigate whether and how YPP serves as a tool of liberation for inner city youth. I then connect Freire's work with Sadan's (2005) research that deals with empowerment. Giroux's (1983) research on hidden curriculum, the underlying values and attitudes expressed within the classroom, contributes to the study of the kinds of values YPP conveys and how it impacts the students. I also explore how Freire's theories are connected with other educators, such as Ella Baker, who adopted a similar philosophy and put it to use during the Freedom Summer project. Finally, I draw from past case studies dealing with community-based programs for youth.

I. Theoretical Discussion:

Liberation and Education

Freire (1970) explains that within an unjust society there are the oppressor and oppressed, where education ceases to be a tool of oppression, and instead, becomes a tool of liberation for the oppressed (47). Education is a social process of the acquisition and sharing of knowledge. The relation of knowledge and power stresses the importance of education for the oppressed; as Foucault expressed it in *Knowledge & Pedagogy*, "knowledge is power" (Sadovnik 1995:63); however, we must ask whether everyone has access to knowledge. It is questionable who is able to validate ideas as knowledge. Marx, in *The German Ideology*, articulates that "the ruling class will give its ideas the form of universality and represent them as the only rational and universally valid ones" (Sadovnik 1995:59). This interpretation of the production of knowledge demonstrates an unequal society of the oppressed and oppressor because only the ruling class gets to decide what information is common sense. Although throughout time there have been

conflicting ideas of how education affects society, in my study I refer to education as a means to liberation. The students in my study are from a disadvantaged neighborhood within a low-income public school system. Freire believes that receiving an education can be a mechanism to overcome this challenging situation. Similarly, YPP strives to be a program that empowers students and breaks the cycle of inequality within the American public school system.

Education is a means of achieving greater social equality. Freire argues that education can be a form of liberation by having the oppressed play an active role: “No pedagogy which is truly liberating can remain distant from the oppressed by treating them as unfortunates and by presenting for their emulation models from among the oppressors. The oppressed must be their own example in the struggle for their redemption” (Freire 1970:54). Freire also argues against the “banking concept of education” in which the student is viewed as an empty vacuum being “filled” by the teacher’s “content of narrative.” He notes that this method “served the interests of oppression” because it “transforms students into receiving objects and attempts to control thinking and action, leads men and women to adjust to the world, and inhibits their creative power” (Freire 1970:77). To truly reach liberation, one must reject the banking concept and adopt instead “a concept of women and men as conscious beings, and consciousness as consciousness intent upon the world” (Freire 1970:79). This method encourages an exchange of consciousness, which would develop agents of change and influencers within society. Freire’s methods and philosophy were adapted by many other educators as a way to combat oppression and can be seen in the model of the Young People’s Project. YPP strives to have young people teach other young people, also challenging the banking concept of education.

Empowerment

Freire (1970) observed that in his work with low-status urban youth in Brazil, his students achieved greater academic outcomes when they helped each other achieve academic success, as well as gain a greater understanding of the forces that limited their opportunities. Although Freire did not define empowerment directly, the idea of empowerment is possible when each participant sees himself or herself as capable of making it happen for others as well as for themselves. This idea is similar to Sadan's (2005) definition of empowerment: "a process by which people struggle for control of their lives. Some programs empower and some people are empowered themselves and these are two separate processes" (2005:3). Drawing from the literature of Stanton Salazar, (2006) he defines empowerment as,

Both the increase in the capacity of an individual, group or community to create change as well as the process and outcomes of actual change in the conditions that oppress people, resulting in an enduring redistribution of power and resources (2006:5).

These definitions of empowerment apply to my research because a portion of my study deals with whether inner city youth from Utica are empowered through their experience at YPP, a community based program. When applying the idea of empowerment to the context of education, "radical pedagogy" became a way to empower students as opposed to the banking concept of education. Other theorists of radical pedagogy recognized the power relations between a strict dichotomy of a teacher and student and saw this as disempowering. Some argued that school knowledge was a particular representation of the "dominant culture, a privileged discourse that was constructed through a selective process of emphases and exclusion" (Giroux 1989:129). In this view, the representation of culture is linked to power and an imposition of a specific set of ruling class codes and experiences.

However, breaking from this view of education allows teachers to both elaborate and implement empowering pedagogical practices. Breaking from the traditional banking concept of

knowledge leads to a more student-centered education. Giroux (1996) explains that the discourse of student experience supports a view of pedagogy and empowerment that allows “students to draw upon their own experiences and cultural resources and that also enables them to play a self-conscious active role as producers of knowledge within the teaching and learning process” (148). This view of empowerment is built on the student’s realization of their active role in their education. It also means that teachers must allow students to take ownership of their education and class material. The students’ experiences will be brought into the classroom. Through the YPP mission statement, YPP strives to implement this empowering pedagogy because its curriculum is based on students reaching their own conclusions about questions, as opposed to simply memorizing and reciting material. YPP also strives to connect math to the students’ personal lives.

Giroux explains that pedagogy of the student experience must also be linked to the notion of learning for empowerment. He explains this as curriculum practices that draw upon student experience as both a narrative for agency and a referent for critique (Giroux 1989:149). Students are encouraged to not only bring their experiences to the classroom, but also to question what is seemed to be objective knowledge. In this way, empowering students also means to help students find their voice. Empowerment in the classroom replaces authoritative language of recitation and imposition with an approach that allows students to speak from their own “histories and voices while simultaneously challenging the very grounds of which knowledge and power are constructed and legitimated” (Giroux 1989:150). In practice, I imagine that pushing students to realize these constructs must occur over a long period of time.

In other studies, empowerment has been conceptualized as a motivation-based construct (Bainbridge 1996). Bainbridge (1996) defines student motivation to learn as “a tendency to find

academic activities meaningful and worthwhile and to try to derive the intended academic benefits from them” (188). Self-esteem has also been an indicator of empowerment and has been defined as the “evaluative component of the self-concept” as well as “an expression of approval or disapproval, indicating the extent to which a person believes himself or herself competent, successful, significant, and worthy” (188). Self-esteem is a psychological component that is “positively related to academic achievement and motivation” (189).

For the purposes of my study, when referring to empowerment or an empowering educational experience, I refer to students who take ownership of the learning material and feel like their experiences and voices are included within the classroom. As in Sadan’s definition of empowerment, the students struggle to take control of their learning experience, as well as make connections with the Hamilton College students. I also use the term empowerment as an indicator of self-esteem and motivation for personal goals. Bell Hooks (1994) in *Teaching to Transgress: Education as the Practice of Freedom* describes a radical pedagogy that epitomizes an empowering learning experience.

Since the vast majority of students learn through conservative, traditional educational practices and concern themselves only with the presence of the professor, any radical pedagogy must insist that everyone’s presence is acknowledged. That insistence cannot be simply stated. It has to be demonstrated through pedagogical practices. To begin, the professor must genuinely value everyone’s presences. There must be an ongoing recognition that everyone influences the classroom dynamic, that everyone contributes. These contributions are resources. Used constructively they enhance the capacity of any class to create an open learning community (Hooks 1994:8).

This empowerment is not only built on learning from the professor, but also from the student. By recognizing everyone’s presence and allowing students to bring their experiences to the classroom, teaching in the classroom becomes a collective contribution. This empowering

learning community is an important aspect of YPP. These underlying values exhibited within the classroom may also be part of a hidden curriculum.

Hidden Curriculum

Giroux (1983) also studied the role of education through examining what occurs in the classroom in his *Theory & Resistance in Education: A Pedagogy for the Opposition*. In a similar fashion to Freire's ideas of the oppressed and oppressor in the struggle for liberation, Giroux also studied inequality within education. He explains that the dominant culture is "not simply embedded in the form and content of knowledge. It is also reproduced through the hidden curriculum" (Giroux 1983:198). The hidden curriculum in schools refers to those underlying norms, values, and attitudes that are "often transmitted tacitly through the social relations of the school and classroom" (Giroux 1983:198). This sets up an educational environment, which students are exposed to. An educational environment expressed through the hidden curriculum can either be disempowering or empowering for students. Giroux argues that the hidden curriculum could be empowering if teachers "understand not only the linkages that exist between the hidden and formal curricula, but also the complex connections that exist between both curriculum and the principles that structure similar modes of knowledge and social relationships in the larger society" (Giroux 1983:198). In my study, I also explored whether YPP had an empowering hidden curriculum. A component of a hidden curriculum that empowers inner city youth would encourage students to understand how current institutions and systems are or are not working on their behalf. It would also challenge students to figure out whether they should support or challenge these institutions and systems. This study will explore if the hidden curriculum is implemented to create agents of change. An empowering hidden curriculum

impacts inner city youth in different ways: as Giroux explains it may develop the students' frame of mind, depth of understanding, and conviction to function as independent thinkers within the context of institutions and systems.

II. The Historical Context:

Freedom Schools

Ideas like Freire's were practiced in the Student Nonviolent Coordinating Committee's (SNCC) Freedom Schools. These schools were an outcome of the Freedom Summer project of June 1964, where hundreds of students volunteered to work in communities to register as many African American voters as possible in Mississippi. The Council of Federated Organizations (COFO) and SNCC were the civil rights organizations that worked on the project. Robert Moses and Ella Baker emerged as leaders of the project. The establishment of over fifty Freedom Schools served as an alternative classroom, which was used as a space for "political organizing" and to "link political and practical education to community organizing in Mississippi" (Ransby 2003:236).

Ella Baker's influence in the classroom was pivotal and mirrored Freire's pedagogical style and educational philosophy. The first notion implemented was, "to teach is not to transfer knowledge but to create the possibility for the production or construction of knowledge" (Ransby 2003:328). Within the Freedom School curriculum, self-knowledge, applied knowledge, and critical thinking were emphasized for creating a participatory democratic learning process. Another idea similar to Freire's idea was that teaching and learning should be reciprocal. The final perspective that Freire and Baker shared was "skepticism about the conservative impact of traditional ways of teaching and a conviction that a more democratic learning environment has a liberatory potential" (Ransby 2003:328). This model of education was critical in forging an

arena for democratic learning and for setting the scene for many other organizations that would come after it, such as YPP. In the words of Ella Baker,

In order for us as poor and oppressed people to become part of a society that is meaningful, the system under which we now exist has to be radically changed... It means facing a system that does not lend its self to your needs and devising means by which you change that system" (Ransby 2003:320).

This argument illustrates why the Freedom Schools were established. A group of oppressed people believed there were problems within the educational system and that there should be more educated Black voters. They became active participants in creating change by creating schools in the South and encouraging people to vote as a way of empowerment. This is similar to the establishment of youth organizations today. A group of people believe there are deficits in the education system, specifically in urban areas and have established youth organizations with the hope of creating positive impacts on students academically and personally. As Freire and Baker articulated, the oppressed must be active participants in claiming their education. This demonstrates the importance of the work of people within the community who establish community based programs such as YPP.

III. Case Studies of Community Based Programs:

Participation

How youth spend their free time after school hours can affect their social development. During after school hours, adolescents may spend their leisure time by returning home, spending time on the streets depending on their home situation, or participating in structured activities and programs. In the 1990s there were 17,000 youth development organizations, both public and private, active in the United States (Anderson-Butcher, Newsome, Ferrari 2003:40) and even more established in the 2000s. Research suggests that students who attend programs consistently will experience numerous benefits and developmental gains. For instance, involvement in high

quality community based programs or after school programs is related to improved school attendance and performance, more involvement with adults, better peer relations, and enhanced pro-social behaviors (Anderson-Butcher, Newsome, Ferrari 2003:40). Attendance can also be signs of whether the student enjoys the program and continues to return. Participation is a key issue for community based programs and after school programs. Youth who do not attend will not be able to experience any gains these programs are known to provide. Many challenges exist for students to participate in these programs. For some youth participation is voluntary or required. Factors such as parental support or access to programs may also affect participation. It is important to take note of the various factors that are associated with participation.

Quane and Rankin (2006) researched the developmental gains associated with participation within youth organizations using data collected from 546 urban African American mothers and their children in Chicago to compare the availability of programs offered in poor and non-poor neighborhoods. Their research demonstrates the developmental gains of participating in community based programs, especially within an urban community where there are at-risk youth. It is also shown that there are fewer opportunities for positive developmental programs within urban or poor communities compared to non-poor communities. These are all factors that can affect students' participation within community based programs. Quane and Rankin's (2006) research highlights that community based programs impact poor neighborhoods more than non-poor neighborhoods and sheds light on the positive developmental gains for inner city youth.

Quane and Rankin's study indicates positive developmental gains, for instance that the participation within youth organizations is beneficial since it is an activity during non-school hours. This participation is significant in their development, since they are at greater risk of

“developmental delays due to residing in high-risk neighborhoods where pervasive poverty and its associated social problems can interfere with the acquisition of conventional competences” (Quane and Rankin 2006:13). This study found that participation is directly associated with heightened academic expectations, positive self-concept, and stronger commitment to school among youth. Also, the effects of availability are higher in more disadvantaged neighborhoods where the resources are highly needed and the effects of the organization favorably influence positive social behaviors. Quane and Rankin’s research relates directly to my study because it analyzed the effects of participation in programs during after school hours and targeted African American students, although does not focus on one youth organization and how its structure and ideology impacts the students.

Another study of participation within Boys and Girls Clubs by Anderson-Butcher, Newsome, and Ferrari (2003) indicated the important role of community based organizations in promoting positive youth development. This was a quantitative study with a sample of 150 youth that were a part of the Boys and Girls Club located in a western community. Many researchers have discussed the importance of participation in the Boys and Girls Clubs of America, which is a community based nonprofit organization that aims to improve the psychosocial development of youths while also inspiring them to become more productive citizens. Overall, the research found that participation in the Boys and Girls Club was related to enhanced academic achievement and school engagement. Participation was related to lower levels of truancy, favorable attitudes towards cheating, and cigarette use; as well as increased enjoyment and effort in school (Anderson-Butcher, Newsome, Ferrari 2003:49). It was also found that increasing age was related to poorer grades, increased acceptance of cheating, decreased enjoyment of and effort in school, and increased alcohol use (Anderson-Butcher,

Newsome, Ferrari 2003:50). The relation to increased age and problem behavior confirmed past research suggesting that age is an important factor related to increased problem behaviors (Anderson-Butcher, Newsome, Ferrari 2003:50). It also shed light on the type of activities and participation which predicted overall monthly attendance: involvement in the games room, and engagement in sports and recreation activities. The main Club participation in this study was characterized by unstructured and recreational activities as opposed to a structured and educational program such as Young People's Project. This is significant because it highlights the importance of recreational "play" activities in the Club and confirms past research noting the positive impacts of physical activity, sport, and recreation participation on enhancing self-esteem, self-concept, leadership, and cooperation skills and decreasing the display of problem behaviors (Anderson-Butcher, Newsome, Ferrari 2003:52). Their findings also demonstrate additional motivators for participation: presence of friends at the Club and parents requiring their children to attend. Although this study focuses on unstructured and recreational activities of the Club, it still relates to YPP because there are elements of recreational activities and sports that are incorporated into YPP games, such as a prime number relay race. However, it is important to note that YPP is an educational program with outcome-oriented programming. Additionally, it is important to emphasize that participation in recreational activities may have different impacts than participation in a program like YPP.

Social Capital

Social capital is a significant analytic framework for examining inter-generational relationships that may be formed in organized youth programs. Community based organizations for youth may serve as a context in which youth are exposed to more information and have

access to resource-bearing adults who promote the development of social capital. For the purposes of my study, I focus on the work and definitions of social capital of Bourdieu, Putnam, Lin, and Stanton-Salazar. (1985; 2000; 2001; 2006) Their definitions of social capital are used in the case studies that I draw from. In my study I elaborate on the connections of social capital within community based programs, communities in terms of class, and empowerment.

Jarret, Sullivan, and Watkins' research (2005) explores the process of how social capital is developed through organized youth programs. Their study was qualitative and conducted interviews with adolescents in three different youth programs over a three to four month period. They based their research on Bourdieu's definition of social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (1985:248). Their findings indicated that relationships with community adults were developed in stages and that the relationships provided youth with access to adult resources such as information, assistance, exposure to adult worlds, support, and encouragement (Jarret, Sullivan, and Watkins 2005:43). By centering relationships on a common goal, such as the mission of a program or excelling at math, social capital was developed through student-adult relationships and student activities. This ties to my study because youth may build relationships with Hamilton College students that volunteer to teach through the context of YPP. Jarret, Sullivan, and Watkins' research details relationships developing in stages, first with youth moving from a stage of suspicion and distrust, to a stage of facilitated contact, to a stage of meaningful connections (Jarret, Sullivan, and Watkins 2005:51).

In Quane and Rankin's research, they incorporate Putnam's definition of social capital. Community based organizations such as youth recreation facilities, educational programs, or

drop-in centers are important sources of what Putnam (1999) refers to as “bridging social capital” and “bonding social capital”. Bonding social capital are the social processes necessary to build relationships between individuals who have things in common such as socioeconomic status, residential location or shared interests. Bridging social capital is another social process that involves connecting dissimilar groups and exchanging limited resources. Social capital, whether bridging or bonding, provides opportunities for youth to engage with positive peers and adult role models and provides the “transfer of external assets or linkage to resources that may be beyond the means of family members but which are crucial to getting ahead” (Quane and Rankin 2006:2). Bonding social capital is seen in this study, as students from Hamilton College who come from similar backgrounds tend to bond with students of the program. This bonding social capital can be empowering to inner city youth participants as their relationship to Hamilton College students can demonstrate that they too, can reach success and pursue a higher education. Bridging social capital is critical in my study as well, as some Hamilton College students may be of a different race or class, but bond with the participants through the context of YPP and offer a mentoring relationship. The social connection might not have been made possible if it were not for YPP.

Gamble’s research (2007) incorporates Lin and Stanton-Salazar’s definition of social capital directly tied to minority youth, which connects to my study because minority youth are the sample of my study as well. In relation to the empowerment of minority youth Stanton-Salazar (2001) has defined social capital as:

... a set of properties existing within socially patterned associations that, when activated, enable them to accomplish their goals or to empower themselves in some meaningful way. Such associations occur between individuals..., between individuals in a group..., and between groups within a community (265).

Until Stanton-Salazar (2006) proposed it, the connection of social capital to empowerment had not been clearly articulated. This is a significant factor for inner city youth because of the different experiences of social capital and is applicable to my study. Youth who grow up in privileged communities most often have access to resources that prepare them for adult positions of power and influence. Adults with low-status in the family and outside the family often spend much of their time protecting youth from the ecological dangers (Stanton-Salazar 2006:266). These barriers created within harsh environments also limit the aspirations of low-status youth (Stanton-Salazar 2006:266). In order to move beyond these harmful environments, low-status youth most often benefit from social ties within their interpersonal networks and family (Stanton-Salazar 2006:266). Therefore, underprivileged students have a smaller network and less access to networking opportunities compared to high-status youth who have access to a larger network of tools, people, and resources.

The differentiations of class can impact the development of social capital, as found in Gamble's research. Gamble's research tied the notion of social capital with the empowerment of African American youth in community based programs. The purpose of his study was to analyze the network and resource mobilization of program leaders within a community based program that aims to empower youth to achieve social as well as academic success. The findings from the study indicated that organizational structure and Black leadership (i.e. church, fraternal, and mentorship) are important to the success of these programs (Gamble 2007:4). The resources and relationships made through these programs and program leaders led to the overall success of empowerment for African American males (Gamble 2007:6). In the study Gamble used a name generator, position generator, and resource generator as measures of social capital, as well as ethnographic interviews. Gamble's research directly relates to my study because it focuses on

evaluating organizations that serve minority youth. Gamble's research also demonstrates that more social capital prevents students from falling through the cracks, also a goal of YPP. Yet, it differs from my study because it focuses more on the leadership of the program as opposed to what the students' perceptions are about the structure and philosophy of the program.

Mentorship

As in Jarret, Sullivan, and Watkins' research (2005) regarding social capital, mentoring relationships between student-adult relationships are important factors of social capital for youth who attend community based programs. In Shiness, Hibbler, and Anderson's research (2000), they evaluate an after school program that is designed for African American youth called the Academic Cultural Enrichment (ACE) Mentorship Program. The program focuses on developing academic skills and has a strong African cultural component. The evaluation took place over a two year period. Pretest and posttest survey data were collected from the participants for two consecutive years, as well as interviews with leaders, parents, and participants. The findings exhibited that the information collected from the surveys for the pretest and posttest scores were not significantly different. The academic grades did indicate positive changes for most of the participants. The interviews collected indicated that the mentorship aspect of the program had a positive impact on the children through its effective and consistent leadership, parental involvement, and innovative programming. The study relates to mine, as I will also be evaluating YPP, which targets minorities and inner city youth. This study revealed that consistency led to mentoring relationships, which relates to my study as the program works to keep the same students and trainers working together. However, this study differs because it has more of a focus on cultural and academic skills in general, as opposed to a program focusing on math.

Lack of Academic Literature

Although there is a significant amount of sociological study about education and power, there is a lack of academic literature that analyses youth organizations and other programs that occur during after school hours for inner city youth. It is difficult to find literature on the experiences of inner city youth within the United States and the impacts that youth organizations have on inner city youth, especially long term studies. Although there are some case studies, many are survey based, lacking the voices and narratives of the students, which offer an important component in the evaluation of youth organizations. Through my investigation, I hope to shed more light on the experiences of inner city youth participating in YPP and their perceptions on the program as an evaluation. I also strive to capture the voices and narratives of YPP. I hope my investigation will offer more to the sociological conversation about the public educational system and its relations of socioeconomic factors and race as a way to unveil methods that empower young people from the inner city.

Methodology

Terminology

In order to understand this study, it is essential that readers understand the terms of different roles within the program and its structure. I refer to the Hamilton College students that volunteer as “College Math Literacy Workers” (CMLW and CMLWs in plural form), “Hamilton students”, “trainers”, and “volunteers”. They are trained and learn specific YPP math modules and volunteer to teach at Donovan Middle School in Utica once a week with 6th through 8th grade students. When discussing the youth from Utica that participate in YPP, I vary in the use of the following terms: “students”, “participants”, and “youth”. The “Core Team” refers to the Hamilton College students that organize and lead the program. “Advantaged Afterschool

Program” refers to the program at Donovan Middle School where the participants of YPP are drawn from. This program provides students with a safe place to go after school. The program brings outside agencies into the school to provide life skills programs, music lessons, and health workshops, including YPP. “Program Director” refers to the full time position leaders that run the Advantaged Afterschool Program. “Outreach” refers to the days that the CMLW go to Utica and facilitate workshops in the Donovan Middle School. “Training” refers to the weekly Sunday meetings where CMLW’s and Core Team meet to prepare for outreach and learn the math modules.

Structure

YPP at Hamilton College is completely student-run. The structure of YPP comprises of three parties: Hamilton College, YPP, and Donovan Middle School. Hamilton College provides the trained college students, who facilitate the math literacy workshops. YPP National provides the training skills and curriculum materials. The Core Team comprises of Hamilton students, which interact with YPP National, particularly during the summer time and during school vacation periods. This relationship provides the training skills and curriculum materials. In turn, the Core Team trains the CMLWs. YPP works with students from an afterschool program in the Donovan Middle School. After developing a partnership with the Advantage Afterschool Program at Donovan Middle School, run by Safe Schools NY, YPP was allowed to have workshops directly in Utica.

YPP outreach is structured so that it occurs Mondays through Thursdays. Hamilton College students are broken up into groups according to the day they are available for outreach. There are 12 CMLWs in total and four Core Team members. During outreach there are approximately three to four CMLWs in each group and one Core Team member. Every Sunday

YPP holds a training session where the CMLWs are trained by Core Team members to learn math modules and games. The CMLWs are broken up into their outreach groups and create an outreach plan, which details the learning material, games, and the roles of each CMLW. During the outreach day, YPP travels to Donovan Middle School to facilitate workshops for one hour. At the end of each semester YPP holds a Math Bash at Hamilton College, a large-scale math competition and celebration for the students after completing a semester of YPP.

Research Methods

In my study I evaluated the program through investigating the student's hidden attitudes of Young People's Project and whether it is an empowering educational experience. While YPP is a national organization, I am the co-founder and co-coordinator of the first successful college campus site of YPP; therefore, I have access to information, the program, and the participants. While there are other successful YPP city sites, many of the positions are full time and run as an independent institution. The YPP site used in my study is completely student-run through Hamilton College and the CMLWs are volunteers.

My sample included the youth participants of YPP from Donovan Middle School. They are recruited into the program through their participation in the Advantage Afterschool Program, which occurs after school hours. There are students of various backgrounds ranging from 6th through 8th grade, including a large African American and Latino demographic, as well as a large number of refugee immigrants, mainly from Burma, Thailand, and Somalia. Groups for YPP are also broken up into gender and grade. For instance, on Mondays I teach 6th grade girls and Wednesdays I teach 7th and 8th grade boys. The students who do not speak English very well and who usually are refugee immigrants, also tend to be grouped together. However, for my study this semester, there were not many refugee immigrants participating as in the past with YPP.

Students' experiences of the program may be different based on their background, ability, or age. Another factor of this study is new students versus returning students. My sample also includes the CMLWs ranging from freshman to seniors to provide another important perspective of how YPP runs and its impact on them, as well. My sample in total is 24 students, which comprises of twelve 7th and 8th grade boys and twelve 6th grade girls. I also interviewed seven CMLWs.

The measures of my study focus on the students' experiences with YPP and attitudinal views. After researching other studies, I found a number of factors of development that students have experienced after becoming involved in youth organizations. These serve as guidelines in my own study. As an independent variable I examined the degree of the youths' involvement in the program. Their participation and involvement were assessed by asking youth how many times per week they come to the program and participate in other activities in the Advantage Afterschool Program. Through assessing program attendance and participation, I also determined youths' satisfaction with and attitudes towards YPP. Another independent variable is gender. Because the groups are separated by gender and grades, their experiences are different. Indicators for developments and impacts are dependent variables such as academic achievement, leadership, and raised self-esteem.

The procedure that I used for my study is a combination of quantitative and qualitative methods, including a survey and interviews. I also used observational field notes and participant observation. I modified and used the Learner Empowerment Measure (LEM) to assist me in investigating whether YPP is an empowering educational experience for the participants. LEM is a three dimensional measurement that assesses the empowered state of a student. In this context, being empowered refers to an internal condition that an individual experiences towards learning. The LEM developed by Frymier Bainbridge (1996) contained 29 items that scaled

three dimensions of impact, meaningfulness, and competence. Weber, Martin, and Cayanus (2003) modified the LEM to an 18-item version by in hopes of creating a shorter, yet equally valid and reliable measure. The 18-item survey uses a 7-point Likert-type scale (1 being “strongly disagree” to 7 being “strongly agree”). I have modified the LEM to focus on assessing empowerment within the classroom, whether the students are able to take ownership of the material, as well as empowerment for their personal goals.

In the past, open-ended surveys were conducted with the students for YPP; however, most answers were literal and short. For that reason, it was beneficial to use the combination of the LEM surveys with interviews as a way of assessing a more holistic view about the program. This method allowed me to guide the conversation and probe for more information. During interviews, I asked behavioral questions that highlighted specific aspects of the program. For instance, do you come to YPP every week? These questions assess participation, without asking outwardly, do you like YPP? From the interviews, I was able to gain insight about what the students liked and disliked about the program and how they have grown as a student academically and as participants in the program. The interviews also allowed me to include narratives of the participants and CMLWs to show both sides of the program and how each participant plays a role in educational development.

Other methods I used were observation and participant observation. Every Monday, I went to Donovan Middle School for outreach with three other CMLWs and split up facilitation roles. While other group members were facilitating, I took notes on a small pad about students’ reactions, comments, and dialogue. As a facilitator, I also used participant observation. After recording the field notes from a small notebook to a larger one, I coded them with different

themes. This allowed me to view in action how students reacted during workshops. All of the names of the individuals in my study were changed to protect the participants' identity.

Findings

To reiterate, the purpose of this study is to evaluate the effectiveness of YPP at Hamilton College by uncovering the students' attitudes towards the program and how they are impacted by the educational experience, if at all. Through this study, I investigated whether the students are empowered academically or personally. The perceptions that the students and CMLWs have about YPP served as an evaluation of the program and what the program meant to them. The first section of the findings discusses the goals of YPP and the motives of the CMLWs. The rest of the findings deal with evaluating the program. The second section deals with the perceptions of YPP's curriculum and philosophy. The third section deals with the perceptions about the CMLWs, Hamilton College, and college in general. The last section deals with the self-concept of the students and CMLWs reflecting on their YPP experience and its effectiveness.

I. What is YPP?

YPP Goals

In order to understand the impact of Young People's Project, it is important to discuss what the program does and what the CMLWs believe the goals and vision are. At first glance, it is difficult to categorize the type of program that YPP is. Often it is referred to as a math literacy outreach program, mentoring program, or a tutoring program. However, it is mostly seen as a math literacy outreach program that trains Hamilton College students to teach math and social justice workshops. It is also important to note the historical background of the program and how the national program differs from the site at Hamilton College. In 1995 the national program was

initially founded on the idea that there was work that young people could do to change the conditions of their lives and that math literacy was a tool and a starting place. This vision stemmed from the civil rights work that Ella Baker and Robert Moses did. The co-founder of YPP is Omo Moses, Robert Moses' son. With the expansion of the program in the coming years, a site at Hamilton College was developed in 2009. This site differs because it is a student-run organization with no full time staff, as are the sites located in other cities. Students took it into their own hands to learn the YPP curriculum, train other Hamilton College students, and volunteer in Utica to teach 6th to 8th grade students. Through this work, they have realized the goals and missions of the program. The CMLWs explain what the program's goals and missions are.

Janet explains, "the ultimate goal is to develop a relationship with these students that will hopefully inspire them to achieve their goals while making them literate in math." Another CMLW explains, "To provide students with the opportunity to explore math concepts on their own through hands-on games and workshops in a more relaxed, comfortable setting than the classroom." As seen in these descriptions, the goals highlight a mentoring aspect where students develop a relationship with the CMLWs, as well as the importance of building the demand of math literacy through games. Another important aspect that CMLWs expressed was developing the students as leaders in the classroom. Michael explained that YPP "should encourage students not only to learn the math concepts, but also be able to lead and re-teach the concepts to other students or the group." This idea explains that YPP introduces a new way of learning, where the students are given control of the classroom, giving them the opportunity to present their ideas and lead classroom discussions. Many CMLWs also expressed goals that are less tangible and harder to measure, like "to motivate them to achieve their own goals" or encourage them to be

“great people and appreciate help from others and helping others.” Apart from the material that is taught by CMLWs, they believe that making long-term impacts was also a goal. Boiling YPP’s mission and goals down, it is apparent that “math” and “fun” are important aspects of the program.

Motives for CMLWs-Making a Difference

All CMLWs are united around the goals of YPP, yet have different motives for volunteering. When asked about why they participate as a CMLW, answers ranged but were centered on the idea of giving back and helping the community. One CMLW explained, “I love knowing that by volunteering my time I can make a difference in a child’s life, whether it is academically or emotionally.” The general sentiment was that through math and the YPP structure, the CMLWs are able to make a difference, which is a rewarding feeling. Janet also expressed, “I love working with the students because seeing them realize that they understand material is truly rewarding. All students should be literate in math.” By teaching the students a new concept, Janet felt that she was accomplishing a goal and felt like it was a rewarding experience. On top of giving back, some CMLWs expressed a particular interest in math. One CMLW explained, “I participate because it combines my passion for mathematics with the opportunity to give back to the community.” Another CMLW was solely drawn to the mathematical aspect of the program, “I participate because of my previous interest during high school to become a mathematics teacher.”

A few of the CMLWs expressed interest in the program because a program or mentor impacted them during their upbringing. Linda explained, “I feel that I was very fortunate during my middle school year to have mentors that inspired me to succeed in school and life. I think it’s important that I now extend that to others who may not be as privileged as I was.” This CMLW

acknowledges the differences that might exist between her and the students and realizes how much of an important role mentorship played in her own life. Another CMLW expressed a similar experience; she felt that because she attended a program that fostered positive development in her upbringing that she wanted to create a similar experience for others. These responses illustrate that the CMLWs perceived the educational system in Utica to be lacking and at a disadvantage and that through the program they had something to offer the students.

Evaluating the program:

II. Perceptions about YPP's curriculum and philosophy:

Math Literacy

As one of the main goals of YPP, math literacy is the focus of the program. Considering that math literacy is included in the name "College Math Literacy Worker", our curriculum is comprised of basic math concepts. Throughout my observations and interviews, I wanted to see if the students really gained new math skills. Every Sunday the CMLWs train for two hours learning new material and put together their outreach plan. The curriculum deals with prime numbers, factoring numbers, and non-factoring numbers, which was created from the national organization. This semester the material was created by the CMLWs and focused on the coordinate plane. Out of 16 YPP trainers, three are math majors. This illustrates that Hamilton College students do not need to be math experts in order to participate as a CMLW.

The YPP students' interest in math varies. In an interview, Tiffany, a 6th grader explained, "I don't like math, but when it's fun like here in YPP it doesn't matter." Although math is not her favorite subject, she concluded it would not dampen her experience with YPP because of the fun manner in which the math is taught. During my observations, before the group was about to start an activity, a 6th grader announced she did not like math. On the other

hand, there are YPP students who love math. George, an 8th grader, came into his first day of YPP with a poor attitude and did not want to participate at first. However, when he realized that the topic was math he lifted his head from the table and jumped up exclaiming, “I love math. I’m really good at this stuff.” This illustrates that there is a range of the students’ interest in math. While the students’ interest in math might affect their behavior or attention, everyone is encouraged to participate and put forth their best effort.

The philosophy of YPP is to teach in a fun manner. While CMLWs strive to uphold this philosophy, some students still believe that math, as a subject, is boring. In one instance, a student sat on the side of the group and was not enthusiastic about the math activity. He exclaimed, “Math is boring” and kept looking down at the table. A CMLW who was not facilitating the activity pulled him aside and asked the student to give it a chance. After, the student complied and participated in the activity. Although students may not like math, the CMLWs hope to make learning math an enjoyable experience and hope to teach them new skills no matter how interested in math they are.

Through observation and interviews with the students, it became apparent that students enjoyed the extra mathematical practice they were getting out of school. Often, the students commented that they were learning the material in school. However, many students still had trouble answering questions and finishing activities. Gabriel, a 7th grader, had trouble figuring out how to plot coordinate points even though he stated that he was learning it in school. In an interview he stated, “I’m getting better in math. YPP is like my math class in school, but better. Learning about those graphs, it really helped me.” Tameka, a 6th grader also had a similar experience, “YPP helps me in school. The day after we learned about coordinate planes we talked about it in school. I already learned about it, so I understood it better. It made me feel

good because it was easy to do.” In both of these experiences, YPP has helped them in school. This demonstrates that using after school hours in a structural program is an effective way to reinforce math skills. It also exhibits how YPP has strengthened an academic weakness and took the place of school learning.

Another 7th grade student used what he learned in YPP and practiced outside of the workshops. In his interview he revealed, “I learn new stuff from YPP. When I go home, I practice math with my foster mom. I practice and show my math I learn from school and YPP.” On top of reviewing math concepts, some students learn entirely new ones. This exemplifies how a student strives to make math a part of his life outside of the classroom.

After surveying 24 students from all four of the outreach groups, 37.5% of the students strongly agreed with the statement “YPP has helped me improve my math skills” (see pie chart in Appendix 4). 16.67% of the students agreed with the statement, and 29.17% somewhat agreed. In total 70.84% of the students felt they improved their math skills to some extent. Although math can be a challenging topic to teach, YPP has managed to help students become literate in math during after school hours. In addition, math is considered to be a gateway to 21st century citizenship. YPP uses math as a way of focusing on concrete topic, but also as a starting point for other positive developments. YPP’s hands-on teaching style may also be an important factor in creating positive learning experiences.

Traditional versus Hands-on learning

One of the main goals in YPP is to have the students learn math by having fun. After my observations and interviews, it became apparent that there were two approaches of teaching within YPP: the traditional versus the hands-on approach. Many comparisons were also made between the type of learning that occurs within the schools and YPP. In many traditional class

settings, a black board is used. This scenario depicts a lecturing style of teaching. In YPP, at times CMLWs used a flip chart paper as a board to first explain a new concept. It seemed like the “board” and traditional way of teaching material lost the attention of the students and made them distracted or bored. For example, when a CMLW was teaching coordinate plane vocabulary and asked a student to write the words on the board, the only student paying attention was the one writing at the board. Everyone else was holding side conversations or staring off into space. This illustrates an ineffective teaching style, but one that must be used from time to time to explain new concepts or review old ones.

The hands-on approach occurs when students are actively participating and listening. Another hands-on approach that YPP strives to do is tie the experiences of the students with the curriculum. In the instance mentioned above, after the CMLW noticed that the traditional way of teaching was not being effective, she moved onto the next activity. This activity incorporated a math concept and hands-on activity. Students had to use tape to create an actual coordinate plane using the tiles of the floor. Students stopped having side conversations and gave their attention to the CMLW. The students began to work together to label the origin, x-axis and y-axis, scale, and quadrants of the coordinate plane. This example exhibits how the students ended up taking control of the activity and volunteered to label the graph. Tiffany, a 6th grade student enthusiastically asked, “I want to help! Can I help post the tape down?” This alternative way of teaching engages the students by having them help and keeps the students from being bored or distracted, especially if they dislike math.

After observing both the 6th grade girls and 7th and 8th grade boys outreach, it seemed as though there was a notable difference when students were doing hands-on activities as opposed to simply listening to a lecture. When the students were bored, I noticed they talked to their

friends, look at their cell phones, and asked, “what time does YPP end?” When the students were doing hands-on activities, I noticed they were actively participating, asking to help, and tying the material to their own experiences. This is the type of educational experience that is empowering for the YPP students. An example of this occurred when a 6th grade student, Tameka who is usually loud and has trouble paying attention asked, “Can you guys give us an extra homework assignment, so that we have to write a rap about math?” Her statement took many CMLWs by surprise because they were not expecting her to ask for extra work. This extra work; however, was something that was fun and important to her and she was able to draw the connection between math and rap, one of her own personal interests. This demonstrates that by personalizing education through the experiences of the students, it creates more non-traditional and creative ways of learning, which offers an empowering educational experience. Many times the CMLWs had to be flexible and change the curriculum in order to meet the needs of the student. For example: the Monday outreach group teaches 6th grade girls, while the Wednesday outreach group teaches 7th and 8th grade boys. Some of the activities differed based on their level and interest. Although both groups had the chance to do both activities, I noticed that the Monday group had more activities focused on doing dance moves. I noticed the Wednesday group had more of a focus on playing battle ship and running games. The CMLWs tried to engage the students by being flexible and accommodating the material to their needs. In this case, it seemed that the gender of the students influenced the type of activities used.

Students are also vocal about what games they like to play. Tameka explains, “This was my first time in YPP. I like it because it’s fun. We played YPP Let’s Go. It’s like step, that’s why I like it.” The students have a say in what ice breakers and concluding games are played. YPP Let’s Go is certainly one of the students’ favorites. Tameka explained it was fun and

demonstrates that she was engaged because she explained “it’s like step”, a dance that incorporates making sounds with your hands and feet. She associated learning and this game with something from her own experience. While using the traditional board often leaves students bored and disempowered, YPP’s use of games and hands-on activities offers students a new way of learning.

Compared to traditional school settings, YPP has smaller groups of students in the class and more attention from the CMLWs. During my observations, I noticed that at times the group of students would get rowdy and not pay attention. In one instance with the 7th and 8th grade boys, the noise level became out of control and no one was paying attention. Right away, a CMLW told them to work on the activity in pairs and separated them into different locations. There were four CMLWs present; each one traveled around and checked in with the students. This allowed more interactive, hands-on learning and individualized time.

One of the students who have been with YPP since it was established at Hamilton recognized the importance a hands-on approach. Shaq, a 7th grader explained, “I like the way you (CMLWs) teach math. You teach us math concepts and skills that are easy at first. Then you introduce new subjects and build on it. My favorite part of YPP is the way you teach. You don’t ever yell or get frustrated. It’s different compared to school.” Shaq recognized that CMLWs teach in a different, non-traditional way. He compared the program with school and explained the positive difference of being patient and working with students without yelling. This positive learning experience is attributed to YPP’s specific teaching style. Michael, a CMLW, expressed in his interview, “The hands-on style of teaching and learning in YPP allows students to have fun and motivates them to enjoy learning.” The hands-on approach encourages students to actively participate, develops critical thinking skills by tying their experiences to

material, and accommodates to the needs of the students. Students are able to solve math problems and build on these skills, so that they can hopefully transfer these skills into their everyday day life.

Taking Ownership

One of the YPP goals expressed by the CMLWs was to develop the students as leaders. They hope to develop them as leaders within educational contexts by guiding the student, but to let them come up with their own conclusions. Often CMLWs encourage other students to help teach their peers if they are having trouble. In Michael's interview he explained,

By encouraging peer-to-peer teaching, it evokes confidence in each student, to you know, teach to an entire class of students and trainers. This further proves that students not only learned the concept, but can teach others. This also helps students experience a break from traditional teaching styles.

As he expressed, students who take control of the class and help teach others, as opposed to relying on the trainer, breaks from traditional teaching styles. This illustrates an action of taking ownership of the material and empowering themselves within their education. This also develops their critical thinking skills. Both students and CMLWs take ownership of the learning material. CMLWs take ownership of YPP's curriculum and strive to break the "one size fits all" style of education. One CMLW explained, "I try to make sure that everyone is engaged. We always have an outreach plan, but sometimes we have to be flexible and go with what the students want." By taking ownership of the curriculum and outreach sessions, this engages both the student and CMLW.

Janet, a CMLW explained that taking ownership of the learning material is a work in progress, "In YPP we try to get the students to become more active in their education. I know that YPP wants to help these students develop organizational and leadership skills, but I think that this hasn't necessarily been implemented quite yet." This demonstrates that although

students are given control in the classroom to some extent, structurally there have not been workshops that deal directly with developing organizational and leadership skills. Rather, some students may develop leadership skills through the interactive math activities and over time within YPP.

Through my observation, I took note of how students began to lead organically, as opposed to learning to lead through an implemented workshop solely focused on these skills. During one of the first outreach sessions, the CMLWs taught the students a game called, “YPP Let’s Go” where students are assigned numbers and have to call out other numbers to a rhythm with the objective of reaching the “zero” who leads the game. At first the CMLW was the zero and explained the rules. However, a student proposed to be the zero after she understood the rules better and wanted to lead the game. Through this game, the student took ownership by switching her role from being the learner to the facilitator. The next time the group played this game and there was a new student, so Zephyr, a 6th grade student, volunteered to explain the rules to her as opposed to the CMLW. Usually teachers or individuals in authoritative roles are supposed to set up and explain rules; however, Zephyr took ownership of the class and explained them herself. In another instance after a group activity, Tiffany, a 6th grade student, on her own got in front of the class and pretended to be a teacher to review the work. She exclaimed, “I want to teach the class”, and began speaking in a fancy accent while going over the work. At first the CMLWs were not sure if it caused a distraction, but realized Tiffany wanted to take ownership of the material, so they let her finish speaking. This shows how the program creates an environment where students feel comfortable enough to lead and display motivation of wanting to teach back to the class.

Peer-to-peer transfer of knowledge is another aspect of YPP. An example of this was when the students were working on a prime number activity. One of the students was having trouble and did not understand the activity. Her peer had finished the activity and raised her hand to tell a CMLW. The CMLW then asked her to help her classmate. She gladly agreed and together the girls teamed up to help the other finish the activity. In another instance, Katrina, a 6th grader, announced that she had to switch seats with a CMLW because her friend missed the last YPP session and said she wanted to help her. By taking ownership of the material, the students in these examples believed in their own ability and thought they had something to offer their peers. This empowers the students to take control of their education and engages them in the material. In the survey, 29.7% of the students strongly agreed with the statement, “I can help my classmates learn in YPP (see pie chart in Appendix 4).” 12.5% agreed, 25% somewhat agreed, 8.33% was undecided, 12.5% somewhat disagreed, and 12.5% disagreed. In total, 66.2% of the students thought they could help their peers to a certain extent. However, this leaves a section of students who did not feel capable of helping. As Janet expressed, there is not an implementation of ways to develop leadership skills within the curriculum or workshops that deal with this skill directly. However, she believed YPP was making a difference and thought, “These students not only develop a sense of control over their own lives, but also become aware of future possibilities, such as attending college.”

Attendance/Participation

Attendance rate is an issue that many community based organizations deal with. At YPP I noticed during outreach sessions for both the 6th grade girls and the 7th and 8th grade boys that almost every time there would be a new student or someone from the last session who did not attend. This demonstrates that attendance of the same group of students from every session

varies slightly and makes it more challenging for the CMLWs. In one outreach, the CMLWs had to focus more on review because there were new students included in the group who had not covered reflection and translations in a coordinate plane.

In the survey 16.67% strongly agreed with the statement “I attended YPP every week (see pie chart in Appendix 4).” 16.67% agree, 16.67% somewhat agree, 16.67% somewhat disagree, 25% disagree, and 8.33% strongly disagree. This illustrates that there is close split of students who attend the program consistently and others that do not. There are a considerable amount of students that have been attending every outreach and participate actively. These are the students who gain the most from the program. The students that do not attend the program consistently or show up once or twice may have fun, but it is very likely that the program does not impact them. In the survey, the last open-ended question asks: How has YPP impacted you the most? One student answered, “YPP has not impacted me. I just started coming last week.” Another student also came to the program once and wrote that the program did not impact him. This demonstrates the importance of attendance when striving to make a positive impact on students.

The students who attend create a group dynamic, which influences how each outreach runs. During one outreach, Jack was one of the two new students mixed with students who had been attending YPP regularly. He was loud, distracting to other students, and overall did not hold respect for YPP or for the CMLWs. He kept asking, “When is this over so I can play basketball.” He also made comments like, “I can’t do this math stuff. I already know it, but my teacher told me I shouldn’t do it because it will mess me up.” His behavior can be attributed to the fact he had only been to YPP once and did not have a connection to the program or with the CMLWs. On the other hand, students who regularly attend also influence the group. One 6th

grade student, who has attended every outreach, expressed during an interview, “A memorable moment for me is every Monday, because that’s when we have YPP.” She replied this after I asked her if she had a memorable moment during YPP. Attendance is a factor in how much a student can gain from YPP.

Bored

Trying to teach an academic subject during after school hours can be challenging; it can be hard to hold the attention of students, especially who say they are bored. Through my observations, I have noticed that being bored is a reoccurring theme. Students will claim to be bored or show with their body language that they are not enthusiastic about learning. This can be attributed to the idea that learning is not cool. For example, at first one of the 6th grade girls was not enthusiastic about attending YPP and was very talkative. But after she cooperated and participated, she did not complain any more. Her participation and willingness to learn demonstrated that it was actually fun to play games and learn math, while before she might have felt pressure and did not want to show excitement towards learning.

In the survey, 20.3% strongly disagreed with the statement “I think that learning is cool (see pie chart in Appendix 4).” 12.83% disagreed, 4.167% somewhat disagreed, 16.67% were undecided, 12.5% somewhat agreed, 12.5% agreed, and 20.83% strongly agreed. These percentages demonstrate that there is a wide range of answers. However, when comparing the boys and the girls, 0% of the boy strongly disagreed and 16.67% disagreed with the statement, “I think that learning is cool” while 41.67% of the girls strongly disagreed and 8.33% disagreed (see pie chart in Appendix 4). This demonstrates the challenges and pressures that adolescents deal with, and in this case, it is shown that the majority of the girls at YPP do not think learning is cool. During adolescence, youth are vulnerable; it is possible that students act bored to not

deal with the stigma attached to being excited about learning. Similar to this comparison, the 7th and 8th graders compared to the 6th graders show that they are more likely to believe that learning is cool. 40% of the 7th and 8th graders agree with the statement “I think learning is cool” and 20% agree, while 7.143% of the 6th graders strongly agree and 7.143% agree (see pie chart in Appendix 4). With age and more time spent with YPP, the older students believed that learning is cool. However, some students still remain bored.

Many times students cannot explain why they are bored or claim to be bored. In one instance, a 6th grade student asked “what are we doing?” and then stated “I want to go home because YPP is boring.” I asked her what her favorite subject in school was, she replied math. I then reply, “you should love YPP then! It’s all about math.” She paused, and replied “I didn’t know that’s what you do.” Her reaction was quick to reject YPP as something boring, but did not pay enough attention to realize that it related to her favorite subject. Another student stated after a workshop that she was bored and after asked why, she said she did not know. It is also possible that students who dislike math or have trouble with math are more likely to be bored. Some students are afraid of being wrong or making mistakes. This was seen during my observations; a student remained silent and distracted while his peers were in a discussion about fractal geometry. After the CMLW asked the student to participate, he replied “I don’t get it. I don’t want to say the wrong thing.”

In one of the interviews, a 6th grade student explained that she had heard that YPP was boring from other students, but she did not agree. She did not even enjoy math as a subject, but was able to find something about YPP that she loved and was very fond about: the games.

YPP Games

Games are an important aspect of YPP. After interviewing the CMLWs, many believed that the games were the students' favorite part of the program. Jazmine, a second year CMLW explained in her interview, "I think that the games are the students' favorite part, which is great because they are actually learning." A big focus of YPP's curriculum is games that incorporate math. During their trainings, the CMLWs learned new games to play with the students that incorporated math, teamwork, and often running around. After learning the rules, the CMLWs had to actually play the games. This gave them practice and prepared them to know what to expect when they facilitated the games with the students. Jazmine stated, "I think the YPP students have a very interactive learning experience. From my experience, the kids focus heavily on the games that they are playing rather than the fact that they are doing math." This sentiment was expressed by multiple CMLWs; they believed that the students enjoyed playing games while also learning and practicing the math interwoven within the game.

Tiffany, one of the 6th grade students wrote in her open-ended question, "YPP has impacted me because we have fun and learn at the same time." Her response echoes the beliefs that CMLWs hold about the games. Other YPP games consist of icebreakers and name games that help build connections between the students and CMLWs. During my observations, I noted that the CMLWs opened every outreach with a game. The game usually did not have to be about math, but let the students use their energy. In the 7th and 8th grade boys' outreach, they usually begin with the game "Jedi Juice", a game similar to "Red Light Green Light" except the group tries to steal an object that is called Jedi Juice without getting caught by the guard. Sometimes they begin with name games, especially when there is a new student. During one instance, the students were about to play a game they never played, but Daryl, a 7th grader exclaimed, "Let's

play the name game again. That one was fun.” Everyone agreed. Throughout the whole game, the students could not contain their laughter. When someone made a mistake, the whole group laughed. This demonstrates that games are a tool to teach, but also to bond.

Samantha, a 6th grader with autism explained, “YPP Let’s Go is my favorite part of YPP because it’s my favorite game. We always play it right before we leave.” I noticed in numerous outreach sessions, if the group finished early and behaved well, they asked to play “YPP Let’s Go”. Especially when dealing with a group of students with different abilities, games are ways to allow everyone to participate in another context besides an academic one. In the case of the student with autism, I noticed she had a harder time understanding concepts and needed more individual attention. However, when playing games, she was able to participate fully without any help. This demonstrates that YPP uses games as another context of allowing everyone to participate, regardless of their abilities and uses them as an incentive. It is an effective way of keeping control of the classroom.

The games are a powerful tool for learning and a way to have fun with the students. Linda, a CMLW explained, “It is a great feeling to watch students understand something that they couldn’t before and just have fun then realize that they are actually doing math.” This shows how YPP’s goal of teaching math while having fun is an effective strategy. Another CMLW explained, “I really hope they have fun with math and realize that math doesn’t have to hinder their educational success.” As the students had fun and learned, they were more willing to do the math.

“Feeling Good”

After observing the outreach sessions and interviews with the students and CMLWs, I noticed an effect on the students stemming from the material and philosophy of the program.

After completing a challenge, a tough math question, and learning something new, students feel a sense of accomplishment. Students may feel more confidence, excitement, or feel special. These are emotions that are hard to measure and take time to develop. However, it became evident that YPP is structured so that students have opportunities to accomplish challenging math concepts and receive one on one attention. My study indicates that this makes the students feel good.

A 6th grader explained, “I felt good learning about the coordinate plane because I never learned about that before.” Although it seems that learning a math concept is a small task, this task made her feel good. Another student explained, “I feel excited about coming to YPP because I learn new things.” She expressed excitement because she believes YPP is a space where she can learn new math concepts. These quotes demonstrate that learning new things makes students feel good. By learning something new in YPP, especially out of school, it makes them feel like they are gaining something outside of class. Lisa, a CMLW explained, “YPP students leave the program confident in their abilities to learn and to teach. It is not only a confidence booster, but also helps them understand that learning isn’t just done in the classroom.” This exemplifies how YPP allows the students to see their potential in math, which in turn can boost their confidence academically and make them feel good. She also expressed that it will help students realize that learning is something that does not have to be limited to their classroom walls, but that learning can be done in a fun way and they do not have to be dependent on their school teachers.

The structural activities that are meant for bonding can also make the students feel good. In an interview with Jeff, a 7th grader, he explained, “I have a memorable moment. The first day we had YPP, we met in the big group and played games. We met all the CMLWs and there was

pizza. It made me feel special.” He described the first day of YPP when all the CMLWs attended and facilitated an introduction to YPP and the way things are done in YPP. Jeff expressed that this moment was memorable because everyone attended, it was the first day so it was new and exciting, and there were snacks like pizza and cookies. Usually the CMLWs and students are broken up into different outreach days, so it was a unique day. This event allowed him to see the overall view of YPP and all of the individuals that were investing in him. The Program Director told me that the students do not regularly eat pizza in the program, unless they are having a pizza party for a celebration. The pizza may be associated with a special day. This demonstrates that students feel good when playing activities and meeting with the CMLWs.

Gabriel, a 7th grade student explained, “YPP gives you very fun stuff to do. It feels good when I figure out something that I was having trouble with. It also keeps kids off the street.” On top of learning something new, CMLWs work relentlessly to make sure that students understand the material, even if they are having a hard time or have bad attitudes. Gabriel also brings up the issue of students roaming the streets after school. This is the reality for some students in Utica, NY. YPP provides Gabriel an alternative, a safe space where he can receive help with math. Math is a good tool for allowing the students to see their potential. The math that is taught in YPP is basic, yet later in the year the activities are more challenging and advanced. Some students get frustrated or discouraged when they do not understand the material. It takes work to keep motivating students when they are feeling frustrated. Janet had an experience dealing with this issue: “Getting Devon, who was stubborn and unwilling to participate, to actually understand the material was one of most memorable moments. Although he kept repeating that he didn’t know the answer and refused to answer my questions, I helped him realize that he actually understood the material and knew the answer. It made my day.” It takes patience and dedication

to work with students that are having trouble or behind, but the end result is worthwhile and can make them feel good as students or as individuals. Lisa, a CMLW expressed, “The YPP students gain a better understanding of what they can personally achieve and an opportunity to talk to college students who want to help them.” YPP’s curriculum allows students to feel a sense of accomplishment and the support of Hamilton College students, which can make the students feel good about themselves.

III. Perceptions about CMLWs and Hamilton College:

A CMLW—What it means to students and CMLWs

I interviewed both the students and CMLWs. I asked the students what they thought about the CMLWs. I also asked the CMLWs what they thought the students thought about them. CMLWs were characterized through their age, behavior, and role. One CMLW expressed, “I think the YPP students view CMLWs and Hamilton students as really smart adults and for some of them role models, mentors, and friends.” This demonstrates that the CMLWs are coming from a place of education and in a position of being a role model and friend. Another CMLW said, “I believe they think of us as those older kids at the school on the hill that is not Utica College.” This characterizes CMLWs by their age, not quite a peer, but close enough in age. It also compares them to their surroundings and what they know. This infers that YPP students only have knowledge of Utica College, while every other college is unknown territory. Another CMLW explained, “I think they see us as teachers who are closer to their age than the teachers at school, and some of them see us as friends.” This also characterizes a CMLW through being close enough in age so that they can relate to the students, sometimes as friends, but also as individuals who will help them in math.

When talking to the students, many characterized them as fun and kind. Samantha, a 6th grade student said, “The most helpful thing YPP has done for me is teach me to be kind. That’s what CMLWs are. Everybody here uses kind words.” This demonstrates that CMLWs act and behave in a certain way, which also influences the students to act in a similar way. Tameka, also a 6th grader explained, “Some are good, some are haters.” Hater is a slang term that is often used for a person who speaks badly in attempt to create problems for a successful person. I asked her to explain, she said, “The good ones encourage us to learn and not to argue. The haters are ones that yell.” This demonstrates that there are more effective ways and styles for CMLWs to teach. A good CMLW is described as someone who fosters their education and a mediator, but does not yell at the students.

Discipline-Authoritative roles

Often students are energetic after school and it is hard for them to focus. Other times students say put-downs to each other. Sometimes students have bad days and refuse to participate. These are all examples of how students misbehave. CMLWs must also take on an authoritative role at times when the class is in need of discipline. Janet, a CMLW said, “Some students are more difficult to work with simply because they are reluctant to let others in or they claim they hate math. It is difficult to get them motivated and willing to participate. I do not like having to discipline the students, but it is at times necessary.” Although students are supposed to have fun in YPP, at times when the class is out of control CMLWs must discipline the students. In some instances CMLWs will stop the activity and make the students sit in silence. Other CMLWs use the “clap your hands” technique and say, “If you hear me clap once, if you hear me clap twice.” Some also shout and call out the students. During one outreach, the students were playing a game where they had to toss a beanbag and call the person’s name. Samantha, 6th grade

student threw the beanbag over one of the girl's head. Another student said, "That was a terrible toss" and laughed. The CMLWs then decided to intervene by pausing the game and said, "That is not nice. It's okay if you make a mistake." This demonstrates that CMLWs have multiple roles, which includes disciplining the students and taking on an authoritative role.

Many CMLWs expressed that disciplining the students was their least favorite part of YPP. One CMLW said, "We want to focus on the math and having fun. Not on bad behavior. No one wants to be the bad guy, but sometimes we have to discipline the kids." Often it is challenging for the CMLWs to take on the role of being a facilitator, mentor, friend, and discipliner. However, in order to focus on YPP's mission, it is necessary to take on various roles.

Mentorship

Having the same set of Hamilton College students return after each week and teach students, creates a teaching relationship and often a mentorship. The mentorship that is created between the CMLWs and the students takes time to develop, but is noticeable after observing week after week. Through observation, these relationships were established either through math, a similar interest such as dancing, and through being close in age, compared to teachers. The first day the theme of mentorship was exhibited. One of the new YPP students recognized a CMLW from another program, Y Girls, which she used to volunteer at. She smiled and announced to the group that she knew the CMLW from Y Girls. The student was at ease on her first day because she recognized the CMLW and in turn enthusiastically participated and encouraged her peers to behave well when they were talking. This was a start to a mentoring relationship.

However, when a consistency breaks, for instance a CMLW not attending their outreach, the students notice and ask questions. One outreach day, Kyle, a CMLW, could not attend outreach because he was sick. The next outreach one of the students outwardly asked him where he was. This demonstrates that the students take notice of the consistency and are curious when the consistency of CMLWs is disrupted. Over time they get used to the Hamilton College students, especially because it is a routine that they become familiar with. Through this routine and connections built through a shared experience, a mentorship is created for many students. Kyle, a CMLW, explained that the routine and mentorship is also positive because the students are more willing to participate and behave through their connection with the CMLWs. Kyle said, “I noticed Tiffany was acting up, so I asked her to pay attention and she was like, ‘Oh yeah! Sorry!’ right away. I think it was because of the connection we have that she listened to me.” The mentorship that is created also helps the workshops run more smoothly because students feel like they have more of a reason to participate and behave well.

A student explained that her favorite part of YPP was the help that she got from adults and mentors. Tameka, a 6th grader explained, “I get help by staying afterschool. The CMLWs are nice, helpful, and polite. I have never gotten this help before. I don’t get this same kind of help at school.” The help she receives from YPP after school hours is something that she compares to her experience at school. By staying after school with YPP, she has access to a resource that she does not receive at school. The mentorship that is created was something that Tameka values and recognizes as something important. It is not the material of YPP that is her favorite aspect of the program, but the relationships and help.

Another student also explained, “YPP makes me feel happy because I get to see you all.” This student in particular has autism, which makes it harder for her to perform academically

within YPP; however, she always had a smile on her face, remembered everyone's names, and actively participated in every activity. As opposed to tutoring/mentoring programs where students are met with new mentors and tutors each week, the CMLWs at YPP continually work with the same students. This consistency impacts them positively, as in the example of Samantha, which made her happy.

Through these mentoring relationships, often students look up to the CMLWs as role models. This is built into the hidden curriculum of YPP. Although it is not something written as a part of the curriculum, the underlying value of support is an important aspect of YPP. This example shows a direct connection to the mentoring relationships and how it empowers students. Shaq, an 8th grade student explained, "YPP has helped me in math, like the stuff we learned today for the coordinate plane. YPP has also helped me make a goal to be a good person, just like you all (CMLWs)." Not only has YPP helped empower Shaq's mathematical abilities, but it has also motivated him to be a "good person". When asked further about what he meant, he explained, "I like to see you all teach." The values that are exhibited by the CMLWs and hidden curriculum of YPP have been instilled in Shaq and other students who recognize the importance of YPP in their lives. Through the consistency of the Hamilton College students, mentoring relationships are created and CMLWs are able to connect with the students on different levels. This instance demonstrates how Shaq has an empowering learning experience through YPP that not only affects his academics, but also outside the classroom and pushes him to think about his future. Jazmine, a CMLW expressed, "I believe the students gain a sense of mentorship. Many of the kids look up to us CMLWs and seeing that some of us have come from the same types of backgrounds as them shows them that they can go on to achieving great things." A scenario

explaining this is an African American student who might see an African American CMLW that attends college and feel motivated to also attend college.

In the survey, with the statement “I feel like I have a close relationship with one or more of the YPP trainers”, 12.5% of the students strongly agree, 20.83% agree, 25% somewhat agree, and 25% are undecided (see pie chart in Appendix 4). This demonstrates that it is not clear whether students feel they have a close relationship with CMLWs, which can be attributed to the fact that it is still a professional and educational relationship. However, 20.83% of the students strongly agreed with the statement “I feel supported by my YPP trainers”, 33.3% agree, 33.3% somewhat agree, 8.33% are undecided, and 4.167% disagree (see pie chart in Appendix 4). In total 87.49% of the students feel supported by the CMLWs to some degree. This exemplifies a considerable difference compared to the statement about close relationships. Feeling supported more accurately describes a mentoring relationship. These percentages demonstrate that YPP effectively creates mentorships for the majority of the students and CMLWs.

College/Hamilton College

I wondered whether the program was effective at exposing information about college to the students, especially because CMLWs are volunteers from Hamilton College. Although it is not the main focus of the program, one of the goals of the program is to motivate them to reach their full human potential. Therefore, college is an important subject for YPP. I noticed that college was a topic that was included in the workshops casually. During one outreach the CMLWs and the students had a casual conversation about college. The CMLW was talking about how at Hamilton they take 4 classes a semester and they last one hour and fifteen minutes. One student interjected, “WHAT! Ours are 37 minutes. I ain’t going to college.” The CMLW asks why and she does not respond. Another student Larissa shouts, “I am!” The CMLW asked

the group what they wanted to be, one girl said she wants to go to college for cosmetology. Larissa said, "I want to be on CSI. Just like on CSI Miami. I want to go to school in California." After the students asked the CMLW what they were going to be. This example exemplifies how the one student who said she was not going to college did not really think about it and did not have a reason. Some of the students were interested in going to college. Many of them were interested in vocational jobs, such as cosmetology. One can infer that the students are immersed in an environment where they are surrounded by others who aspire to have vocational jobs. Some students have very high expectations. The one girl who aspired to be on CSI was influenced by the media. This demonstrates that in general, the information that the YPP students are exposed to about college is limited and often through media.

In another planned workshop with the 7th and 8th grade boys, a CMLW asked the students "what do you want to be when you grow up and how would you have to use math?" Two students said they wanted to be NBA players, while another wanted to be a video game designer. Then as a group they discussed how each profession used math. They listed: basketball players need to keep score, keep points per game, and know angles to shoot. The CMLW then told a story about how her friend was in the NBA and started by going to college, getting an education, and then getting recruited. One of the boys said, "Well if I don't get in the NBA, I want to be a doctor." This example shows a structural way of speaking about college to the students during a workshop. The students had to reflect on their own interests and connect math to it. The CMLW included the story about her friend as a way of encouraging a college education without telling the student that there was a right or wrong way. The student came up to his own conclusion that he should have an alternative plan.

After the activity, one of the students expressed, “CMLWs are very interesting to talk to. They tell you stuff I could do and learn in college. They talk to you about things we could be when we grow up.” This demonstrates that the casual conversations, as well as workshops are ways to get the conversation about college started. It exposes them enough to get them thinking about their own personal goals. One of the 8th grade girls wrote in the open-ended question from the survey, “YPP has impacted me the most by helping me think about the future and what I can become and what I can improve.” This illustrates that YPP helps students think about their futures, even though the focus of the program is math.

Jazmine, a CMLW said, “I believe that in the beginning they perceive Hamilton as a place that is unachievable for them. However, by interacting with us CMLWs who can relate to them, they begin to see Hamilton or just college in general, as something they can accomplish.” Through using the CMLWs as a resource of information and as role models, students may feel like it is possible to go to college, just as they master a hard math concept and feel a sense of accomplishment. Another CMLW said, “I honestly think they don’t know enough about Hamilton. They only know that Hamilton is a college, but they don’t know what the students learn or what college is really like. It almost seems like a place they hear about in fairytales.” This means that Hamilton College is a different reality for the students and that YPP collectively does not address enough details about Hamilton College. It may occur through casual conversations, but there is no implementation of discussing Hamilton College. However, at the end of the semester the students attend the Math Bash at Hamilton College where they have a math competition and celebration. One can infer that first hand experience with Hamilton College during the Math Bash is a great opportunity to expose them to a college environment.

Jazmine expressed, “Aside from my YPP students grasping the math concepts, I also would like them to gain the confidence that they too can go on to college and accomplish any goals that they set for themselves.” In the survey the 6th grades reported that 7.143% strongly agree with the statement “YPP has exposed me to information about college or has made me think about college (see pie chart in Appendix 4).” 42.86% of the students somewhat agree, 35.71% are undecided, and 14.29% strongly disagree. Meanwhile, the 7th and 8th graders reported that 20% of the students strongly agree with the statement, 20% agree, 30% somewhat agree, 20% are undecided, and 10% disagree (see pie chart in Appendix 4). In total, 70% of the 7th and 8th grade students agree to a certain extent that they are exposed to information about college because of YPP. This exemplifies that the 6th graders do not think they are exposed to college as much as the 7th and 8th graders think they are. The differences between these percentages can be attributed to the fact that the 7th and 8th graders are older and might feel like it relates to them more as the CMLWs stress the importance of knowing about college before going to the high school.

IV. Self-Concept of Students and CMLWs:

Transformation

YPP usually meets with the students for eight weeks. During the course of this period, I have noticed that many students undergo a transformation either academically or personally. Lisa, a CMLW explained, “Seeing the difference between the first and last day of the program is my favorite part of YPP. It is amazing when the students understand the material and are proud when they can prove that they understand it and all hands are up when a volunteer is asked to the board.” Many CMLWs experience this feeling as they dedicate their time with the students and slowly watch the students progress. I believe that with time, students can transform themselves

academically by understanding the math better or personally by volunteering more. During one of the last outreach sessions I observed, Gabriel, a 7th grader had a transformation moment. The first few outreach sessions I noticed that he was not paying attention, played with his phone, and bickered with his peers. Overtime, I noticed that he began to appreciate the program and the help more. The group was working on an individual activity filling out coordinate plane problems. Gabriel was the only student who was still on problem one and looked confused. Jackson, a CMLW sat down next to him to work with him. Everyone finished except Gabriel; however, another CMLW led the group to play games while Jackson patiently worked with him. After the outreach in an interview Gabriel said,

Me: What is your favorite part of YPP?

Gabriel: You don't get mad when we are confused or get the wrong answers. In school my teachers yell at me. You saw how long it took me to do that work sheet, but Jackson sat with me until I understood it. That's my favorite part of YPP.

Me: What is your least favorite part?

Gabriel: I have no least favorite part. I like it because I'm getting better skills, like math skills and social skills. Also you make me talk in front of the class, so presenting skills too. YPP has helped me learn to figure out any problem, even if it's not math, take my time, and don't rush.

The last activity was to reward all of the students by giving them imaginary six dollars and allowing them to choose candy that had different imaginary prices. Gabriel exclaimed, "I love YPP! This is the YPP Candy Shop." Keeping Gabriel motivated to continue working on the math, while his peers finished and positive until the end of the workshop was a big feat for the CMLWs. Gabriel showed that he realized how YPP had helped him academically and that YPP helped him realize he must maintain a positive outlook when confronting a challenge inside and outside of the classroom.

The Math Bash, a large-scale math competition and celebration with all of the YPP participants at Hamilton College, is another indicator of the transformation that the students experience. Lisa, a CMLW explained, “My favorite part is the Math Bash. I love to see how much us CMLWs have done to help the kids get better at math. It’s also nice to see how well they have progressed throughout the sessions.” During the Math Bash, students are broken up into three teams and compete by playing games. Lisa continued, “The kids love the Math Bash because they use all that they’ve learned in the form of games so they’re either running around enjoying math or working in teams enjoying math.” This exemplifies that the Math Bash is a way to see how the students progress over the eight weeks because the students must use a culmination of everything they have learned to compete successfully. Many CMLWs use the Math Bash as an objective to get the students caught up with the learning material. The Math Bash also includes lots of cheering, dancing, pizza, games, and an award ceremony at the end. The winning team is announced and each student receives a certificate stating they completed their training with YPP and a medal.

Jazmine, a CMLW, explained her most memorable moment, which occurred during the Math Bash, “It happened during my first Math Bash. I overheard one of the kids at the end of the ceremony say, ‘I want to come to Hamilton.’ When the student said this I felt that we had succeeded in inspiring that student to see a brighter future for himself.” This illustrates that the transformation that students undergo can be raising their goals and inspiring the students to think about their future, when maybe before they had not thought about it. By exposing the YPP student to Hamilton College and her associating a good experience with the Math Bash, she decided that she wanted to go to Hamilton for college. Many students expressed it was the first time they had ever seen a college and asked questions to the CMLWs about college life. This

transformation experience at the Math Bash motivates them to think about where they want to be in the future.

Students have also undergone a personal transformation. Michael, a CMLW, explained, “A memorable moment was watching a student who was normally shy and kept to herself slowly grow week by week until she explained in front of the group that she fully understood the difference between combinations that I thought before, she did not learn very well.” This student had a shy personality and did not like speaking up in front of the group. Michael’s example demonstrates that through math students can gain confidence. Although her personality was very shy, YPP gave her the opportunity to break away from her shyness and speak in front of a crowd. These transformations occur overtime as students progress and feel more comfortable with the learning material and the CMLWs.

It’s a Two Way Street

Although the main focus of the program is to help the YPP students, CMLWs expressed that they, too have gained from the experience. Since the program exposes both the students and CMLWs to different backgrounds, it has become a learning opportunity. One CMLW said, “YPP has served as a lens to inequalities that some students face simply based on where they grow up. Prior to YPP, I had always taken quality education for granted because of my educational experiences.” Another CMLW said, “From YPP I got a better sense of understanding that sometimes you have to treat people differently given their individual circumstances.” Both of these statements demonstrate that the experiences of the students are different from their own academically and socially. In both instances, YPP is a positive experience that has helped them understand others better.

Lisa, a CMLW explained, “I love volunteering for YPP because it benefits all who participate. The students gain a sense of self-accomplishment, but the CMLWs also gain an understanding of what it truly means to commit to helping students who need help.” This illustrates that both parties gain from the YPP experience; it is a two way street. Through YPP, the CMLWs grow from an experience where they commit to working with the same students every week and every Sunday morning for training. This reveals that the CMLWs gain from the commitment and hard work because they must be invested in the students and YPP’s mission. Another CMLW expressed that YPP has been a positive experience, “I’ve learned a lot, especially from myself. I love that through YPP, I can put smiles on kids’ faces through teaching and watching them learn.” By linking teaching with fun, this CMLW has gained from the program personally and has helped her learn about herself. This exemplifies that the learning process is also a two way street. The students learn from the CMLWs and the CMLWs also learn from their experience with YPP. It also gives CMLWs who are interested in pursuing a career in education practice and experience. Linda expressed, “I have learned new facilitation techniques, and new creative ways to interact with students. I have also gained confidence in working with youth. It has increased my desire to help students in schools like Donovan and awareness of the need for mentors for these students.” Not only does YPP help by giving CMLWs firsthand experience working with students, but it also inspires them to want to continue to be a part of solving issues within education. YPP has helped changed the mentality that education is a “one size fits all” and encouraged the idea that education is a gateway for opportunity. This two way street in YPP has created real learning experiences for people through meaningful work.

Conclusion

Discussion

In the literature review for this study, important theories and findings from case studies were provided to guide my research. In this section I will relate the most important concepts from my literature review to the findings of this study. I will finish this section with the overall evaluation of the program. It is apparent that there is a clear immediate mission of YPP: to teach math to inner city youth and to encourage them to have fun. In addition, CMLWs take into account the historical background of YPP by hoping to raise social consciousness in the classroom. I observed that individual CMLWs implement and practice this differently. For example, some of the CMLWs incorporate discussions about college and the students' futures in workshops, while others casually discuss these topics. The CMLWs described the main goals of YPP as making the students literate in math, bonding with students through fun activities, mentoring the students, developing them as leaders, and supporting the students in whatever personal goals they have.

The interviews, observations, and surveys of this study indicate that the perceptions of YPP's curriculum are primarily positive and helpful. Many students enjoyed that the program gave them practice with math concepts in a separate venue from school. Even students who have expressed boredom because of the subject still gain math skills and other positive benefits, such as support, mentorships, and exposure to college students and information about college. Math is not an enjoyable subject for every YPP student; however, students and CMLWs expressed that the way in which the math is taught makes it a more positive experience. The data collected indicates that the YPP's philosophy of hands-on teaching, games, and peer-to-peer learning creates an empowering educational learning experience. Similar to Freire's (1970) idea of

liberation through education, the students encounter a different and more liberating experience of learning with YPP than they do in a traditional classroom setting.

YPP's philosophy of teaching is implemented through a hidden curriculum (Giroux 1983). However, the aspect of the hidden curriculum that influenced students most was the support and the style of teaching. Although, in theory part of YPP's hidden curriculum was encouraging students to question the systems around them and objective knowledge, my findings did not indicate that this occurred. My study did not support Giroux's (1989) idea that drawing from the student experience is a way of challenging the notions of objective knowledge and power. Over a longer period of time, having students be able to deconstruct objective knowledge and see themselves as agents of change may have been observed. Instead, my findings indicated that YPP encouraged students to start thinking about their own futures and college. Also, connecting material with the students' experience was a way of making the workshops more fun and interactive. My findings indicated that the hidden curriculum that influenced students most was the supportive learning environment and style of teaching; as many students expressed, their favorite part of YPP was the way the CMLWs taught. CMLWs implemented the games and fun activities within the curriculum, which has proved to be an effective way of teaching. Although teaching math is a great way to focus on concrete material, it is more the hands-on style of teaching that has impacted the students positively. It empowers them to learn in a different way by developing their critical thinking skills and fostering their creativity.

The CMLW's main goal is to teach the students math concepts; however, the mentorship, rather than the knowledge of math, is an effective aspect of YPP. As in Quane and Rankin's study of social capital (2006), some of the mentorships are founded through bonding social capital, such as being of the same race, closer in age, and sharing an interest of math or

dancing. Several of the mentorships in YPP are founded as bridging social capital; CMLWs expressed there was a large difference between their educational experiences with the students. Many of the students expressed dislike for the way their teachers yell or get upset while teaching and liked how fun and kind the CMLWs were. This indicates how establishing mentorships with caring adults that support the students' needs is a significant and an effective aspect of YPP. These social connections make the students more willing to participate in activities and attend workshops, which must occur in order for the program to be effective. Through the CMLWs and the Math Bash at Hamilton, the students gain social capital and expand their limited knowledge about college. As stated before, because there are no written guidelines that directly deal with college, the program could be more effective with these additions. An implementation of more workshops dealing directly with the students' reflections about their futures would strengthen the program. An issue within YPP is that after the students graduate from the program, many lose contact with YPP at Hamilton College. Yet, YPP strives to set students in the right direction with their education and encourages them to reflect on their own personal goals. Overall, YPP is a positive experience that makes the students feel good.

Because YPP has a clear mission, in addition to consistent and committed CMLWs, it is an effective program. The majority of the students have improved their math skills and gained exposure of knowledge about college, while feeling the support of older students who are invested in them. The program could be strengthened if there were more guidelines about facilitating discussion and activities regarding college and the students' future. Also, CMLWs must keep in mind that the math material must have the right balance of fun activities in order to keep students from feeling bored or distracted. Overall, YPP empowers students directly

through math and mentorships, which leads the students to realize their potential and contribute to a positive learning experience.

Recommendations

The findings of this study suggest that the students gain from learning math in a fun manner with the support of mentorships. After working with YPP for two years and exploring this topic for my thesis, I have a few suggestions to strengthen the program. It is important to note that the YPP coordinate plane curriculum used during my study was still being developed by the Hamilton College students, as opposed to the prime, factoring, and non-factoring number curriculum used the semester before, which was developed by the national program. Because the coordinate plane curriculum was not fully developed, this could have contributed to students feeling distracted or bored. In addition to being college students, the YPP Core Team was in the process of developing lesson plans for this semester, making a curriculum guidebook for the CMLWs, and training the CMLWs all at the same time. In the future, if there were more guidelines of how to run the workshops and the help of a curriculum guidebook, some students might not have felt bored. With guidelines there would be more organization and less distraction within workshops. This documentation of guidelines will also help future YPP coordinators when the present Core Team graduates.

I suggest that in order to maintain the program's attractiveness for youth, there must be a balance of the math, games, and interactive activities. This will encourage more consistent attendance, while also motivating students to gain valuable skills and assets that contribute to their positive development. Through this balance, students learn while having fun in a safe and supportive environment, and most importantly, it will keep students from being bored.

I also recommend that, in the future, the CMLWs establish communication with the students' math teachers. The Program Director of the Advantage Afterschool Program could help establish this communication. This would help give CMLWs background about the students' academics, which might help them to teach more effectively and personalize the students' learning experiences. This communication will also allow YPP curriculum to be aligned with what students are learning in school, so that the workshops can directly apply to their math classes.

Lastly, I suggest that the CMLWs and Core Team members remain committed to attending outreach sessions and trainings. Being a part of YPP is hard work; the CMLWs must commit two hours every Sunday for training and two hours during the week for outreach. It is imperative that CMLWs attend trainings and learn the material because, ultimately, they are the interpreters of the curriculum within the workshops. The CMLWs must be able to learn the material, facilitate workshops, and dedicate themselves to YPP's mission. Having the same CMLWs show up every week and work with the same students is important for creating mentorships and positive learning experiences. This consistency is one of YPP's greatest strengths. Although being a part of YPP demands hard work, many CMLWs expressed that the end result is worth it; also it is a lot of fun!

YPP is a distinctive program that is completely student-run. There are not many programs like it, especially at Hamilton. YPP's training for the Hamilton College students and a specialized curriculum makes the program unique. Furthermore, the Core Team and CMLWs should continue to stress the importance of dedicated Hamilton College students, a hands-on curriculum, and supportive learning environment. In culmination, these factors will help empower inner city youth through math literacy.

Potential for Further Research

While this study evaluates YPP through examining the students' perceptions of the program, the study is limited. YPP is still a young program as it has only been established at Hamilton College for two years. The results would presumably show more long-term impacts if there were student alumni from the program that could be interviewed. Also, the study focuses mainly on the experiences of the students and the CMLWs. It would be interesting to include the parents' or guardian's perspective of the students' experience with YPP outside of the class. This would demand a study with a longer time frame, as it is very challenging to get into contact with the students' family members, especially depending on the students' situation at home. It would also be interesting to include more of the Program Director's voice as an indicator of how YPP has had a wider impact at the Advantage Afterschool Program.

Lastly, my study is lacking documentary information that could have brought forth more evidence. Students' report cards, attendance records, and background information that the program holds would have been valuable to my study. Moreover, collecting the students' math assignments and syllabus would have been helpful to compare what they have been learning in school with the material at YPP. These additions through quantitative and qualitative methods over a longer period of time would have strengthened my study and help improve the effectiveness of the program.

Implications

The results of this study suggest that overall the students' experience with YPP is related to a positive learning experience and that YPP is an effective program for making students literate in math. Even though the work is challenging and time demanding, the CMLWs shared the same mission for YPP and realized the value of their investment in the program. The

findings from this study bring to the forefront issues for consideration for professionals and researchers looking at similar programs, especially targeted for inner city youth. The consistent attendance of CMLWs was key to the success of the program; it encouraged meaningful relationships with the students and more participation from the students. Consistent attendance would benefit programs for inner city youth as a way of demonstrating that others are invested in students' education and lives, especially when they are part of a system that failed them and have limited access to resources and knowledge. Organizations with programming during after school hours offer students a safe place to socialize and learn, while often providing access to mentors and help. Programs that focus on academics offer a venue for students to expand their skills outside of the classroom. Academic-oriented programs, in addition to games and hands-on activities, encourage engagement and positive learning experiences. Also, giving control to the students in the classroom make them feel important and connected to the curriculum. YPP serves as an empowering education model that promotes learning while having fun and strives to prevent students from falling in the cracks. I hope that even further research can help bring an end to the challenges of the achievement gap and give youth the tools for academic success.

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Appendix 1: LEM Survey

Name:

Grade:

Age:

Gender: Male or Female

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES HOW YOU FEEL:

1-----7

(1) Strongly Disagree (2) Disagree (3) Somewhat Disagree (4) Undecided (5) Somewhat Agree (6) Agree (7) Strongly Agree

1. **I can make an impact on the way things are run in YPP.**
1 2 3 4 5 6 7
2. **I can help my classmates learn in YPP.**
1 2 3 4 5 6 7
3. **I attended YPP every week.**
1 2 3 4 5 6 7
4. **I made a difference in the learning that went on in YPP.**
1 2 3 4 5 6 7
5. **I influenced the trainer in YPP.**
1 2 3 4 5 6 7
6. **I felt appreciated in YPP.**
1 2 3 4 5 6 7
7. **I am comfortable speaking up in YPP.**
1 2 3 4 5 6 7
8. **The work that I did in YPP was meaningful to me.**
1 2 3 4 5 6 7
9. **I think YPP is exciting.**
1 2 3 4 5 6 7
10. **The work that I did in YPP was valuable to me.**
1 2 3 4 5 6 7
11. **The things I learned in YPP were useful.**
1 2 3 4 5 6 7
12. **YPP is helping me achieve my goals in life.**
1 2 3 4 5 6 7
13. **I believe in my ability to do well in YPP.**
1 2 3 4 5 6 7
14. **I think that learning is cool.**
1 2 3 4 5 6 7
15. **YPP has helped me improve my math skills.**
1 2 3 4 5 6 7
16. **YPP has exposed me to information about college or has made me think about college.**
1 2 3 4 5 6 7
17. **YPP has helped me feel more confident in my academic abilities.**
1 2 3 4 5 6 7
18. **YPP has helped me become more excited about learning.**
1 2 3 4 5 6 7
19. **I feel like I have a close relationship with one or more of the YPP trainers.**
1 2 3 4 5 6 7
20. **I feel supported by the YPP trainers.**
1 2 3 4 5 6 7

21. **OPEN ENDED QUESTION: How has YPP impacted you the most? (Please write in full sentences)**

Appendix 2: Interview Guide for YPP Students

1. How many years have you been with the program?
2. How often do you come to YPP?
3. What do you like best about YPP?
4. What do you like least about YPP?
5. What is the most helpful thing YPP has done for you?
6. What do you hope to get out of your participation with YPP?
7. What is a memorable moment of YPP?
8. Has there ever been a time during YPP that made you feel good? When?
9. Has there ever been a time during YPP that made you feel frustrated? When?
10. What did you think of the Math Bash at Hamilton? Why?
11. What do you think of Hamilton College and the CMLWs?
12. Has YPP helped you improve in school?
 - Math?
 - Other areas: Homework, academic goals, and excitement of school?
13. What have you learned about yourself because of YPP?
 - Math concepts?
 - Other personal things about yourself?

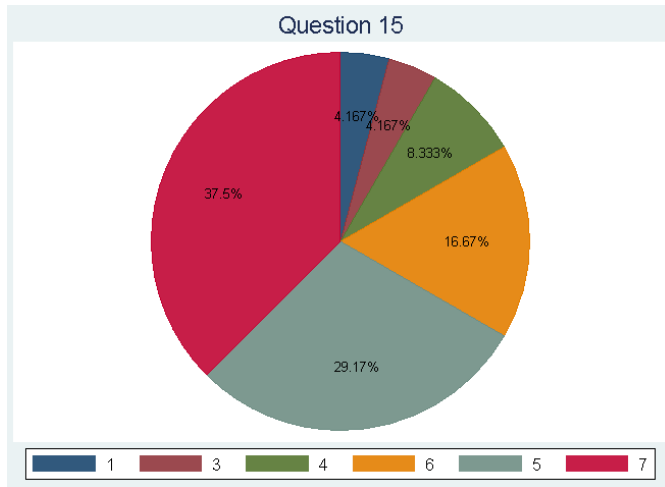
Appendix 3: Interview Guide for CMLWs

1. How long have you been volunteering with YPP?
2. Why do you participate as a CMLW?
3. What do you think the YPP students gain from the program?
4. Do you like working/volunteering for this program? Why or Why not?
5. In practice, what do you think seems to be the goals/mission of the program?
6. What do you think the goals/mission should be?
7. Do you have any specific goals for your YPP students?
8. What is your favorite part about being a CMLW?
9. What is your least favorite part being a CMLW?
10. What do you think is the kid's favorite part of YPP?
11. How do you think YPP students perceive Hamilton and the CMLWs?
12. What kind of learning experience do you think the YPP students have?
13. What have you gained from YPP?
14. How has YPP impacted you?
15. What is a memorable moment during your YPP experience?

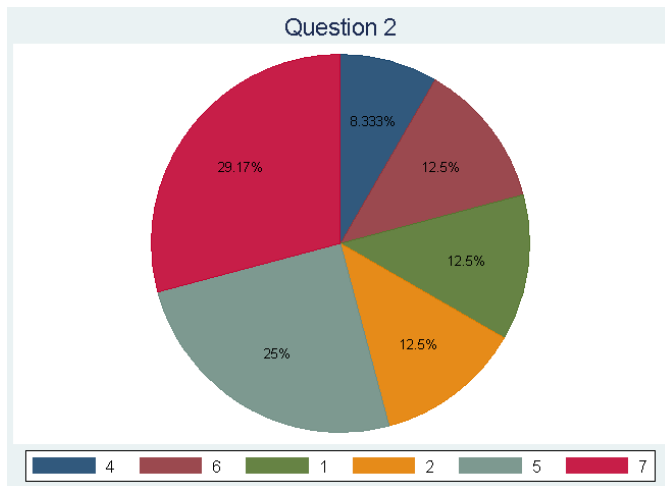
Appendix 4: Charts from Survey

Key: (1) Strongly Disagree (2) Disagree (3) Somewhat Disagree (4) Undecided (5) Somewhat Agree (6) Agree (7) Strongly Agree

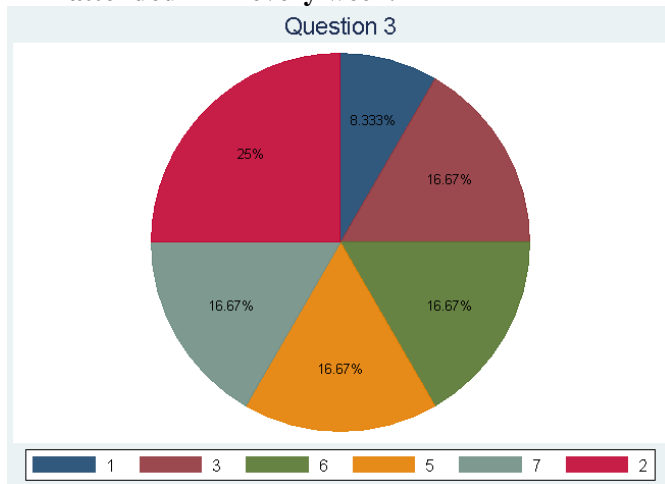
YPP has helped me improve my math skills.



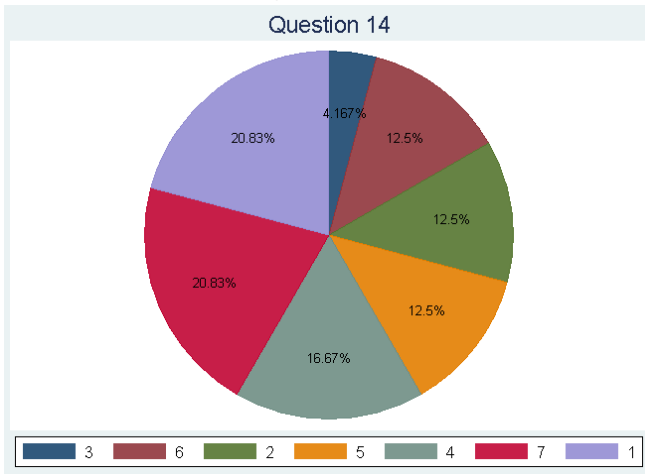
I can help my classmates learn in YPP.



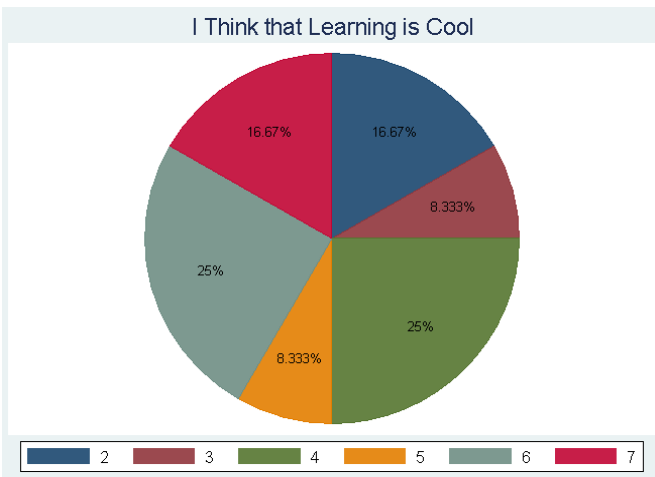
I attended YPP every week.



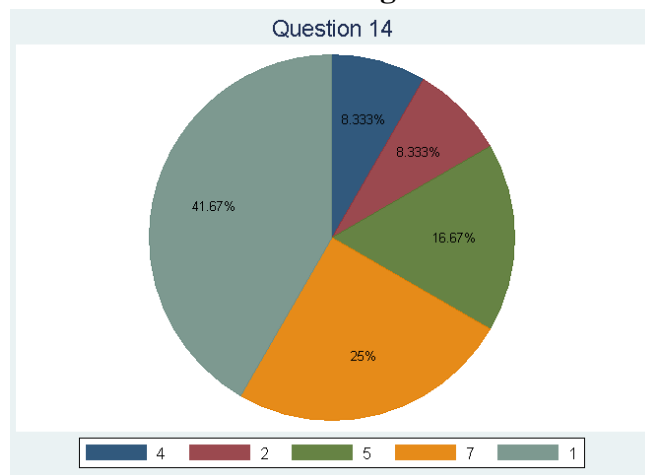
I think that learning is cool.



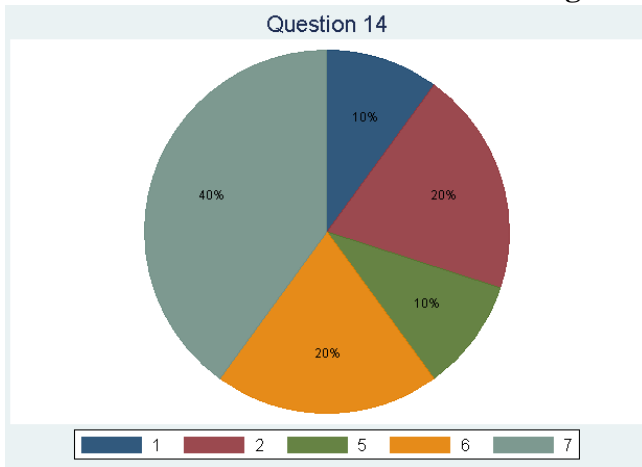
Boys: I think that learning is cool.



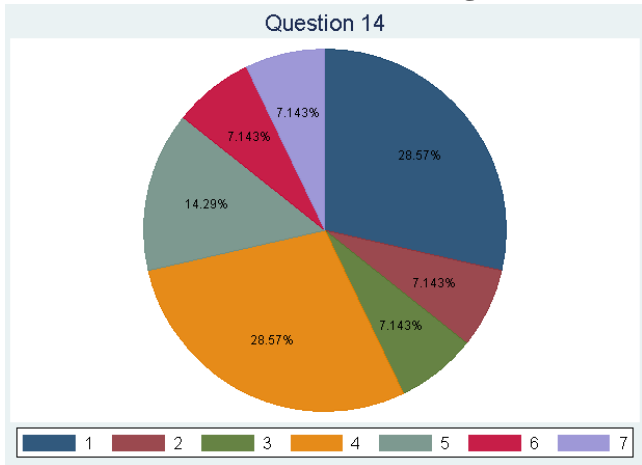
Girls: I think that learning is cool.



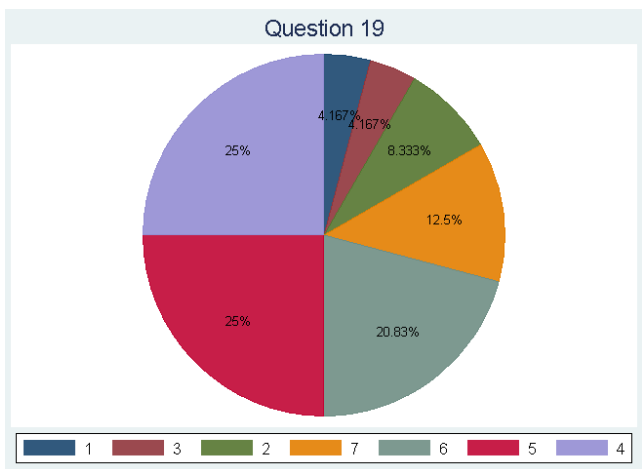
7th and 8th Graders: I think that learning is cool.



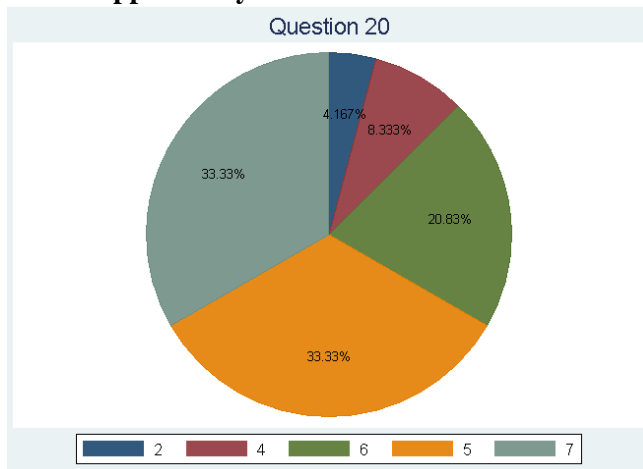
6th Graders: I think that learning is cool.



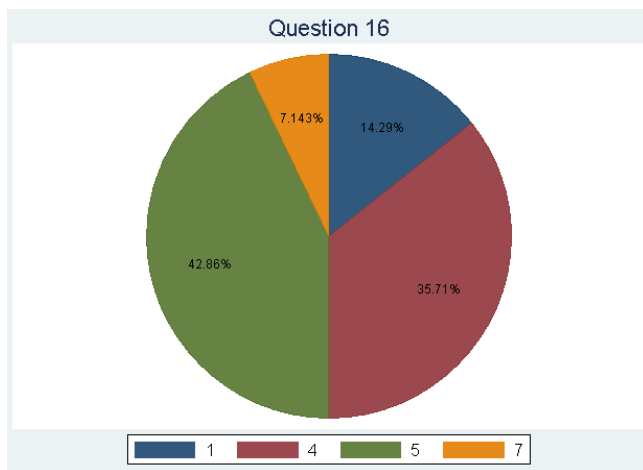
I feel like I have a close relationship with one or more of the YPP trainers.



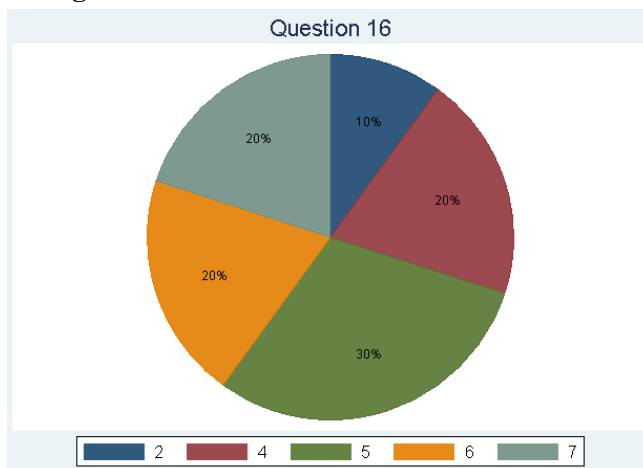
I feel supported by the YPP trainers.



6th Graders: YPP has exposed me to information about college or has made me think about college.



7th & 8th Graders: YPP has exposed me to information about college or has made me think about college.



Appendix 5: YPP Photos
Photos from previous Math Bashes





Photo of CMLWs, YPP staff from Cambridge site, YPP students from Cambridge site, and Robert Moses

