An Examination of the Effectiveness of a Professional Development Program on Teacher Knowledge and Practice to Address Adolescent Health Issues

Narima Aliya Shahabudeen
Seton Hall University

Follow this and additional works at: http://scholarship.shu.edu/dissertations

Part of the Educational Assessment, Evaluation, and Research Commons, Educational Methods Commons, Educational Psychology Commons, Elementary and Middle and Secondary Education Administration Commons, and the Junior High, Intermediate, Middle School Education and Teaching Commons

Recommended Citation
Shahabudeen, Narima Aliya, "An Examination of the Effectiveness of a Professional Development Program on Teacher Knowledge and Practice to Address Adolescent Health Issues" (2010). Seton Hall University Dissertations and Theses (ETDs). 202.
http://scholarship.shu.edu/dissertations/202
An Examination of the Effectiveness of a Professional Development Program on Teacher Knowledge and Practice to Address Adolescent Health Issues

Narima Aliya Shahabudeen
Seton Hall University

Dissertation Committee
Elaine Walker, Ph.D., Mentor
Martin Finkelstein, Ph.D.
Robert B Morgan, Ed.D.

Submitted in Partial Fulfillment Of the Requirements for the Degree Doctor of Education Seton Hall University

2010
SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
OFFICE OF GRADUATE STUDIES

APPROVAL FOR SUCCESSFUL DEFENSE

Doctoral Candidate, Narima Shahabudeen, has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this Spring Semester 2010.

DISSERTATION COMMITTEE
(please sign and date beside your name)

Mentor: Dr. Elaine Walker 3/3/10

Committee Member: Dr. Martin Finkelstein 3/3/10

Committee Member: Dr. Robert Morgan 3/3/10

Committee Member:

External Reader:

The mentor and any other committee members who wish to review revisions will sign and date this document only when revisions have been completed. Please return this form to the Office of Graduate Studies, where it will be placed in the candidate's file and submit a copy with your final dissertation to be bound as page number two.
Abstract

An Examination of the Effectiveness of a Professional Development Program on Teacher Knowledge and Practice to Address Adolescent Health Issues

Health is a major concern for many in the United States. The increasing trend toward a healthier lifestyle is of particular concern for a growing number of adolescents. Currently, one in three children is overweight or obese and of the 15 million new cases of sexually transmitted diseases (STDs) reported each year, 10 million of them occur to adolescents. Promoting healthy lifestyles was the premise of the Get Healthy. Get Smart! curriculum integration project, which was funded by the Elton John AIDS Foundation and implemented in 11 targeted schools in central Harlem, New York.

This dissertation examines the effectiveness of a professional development program's impact on a curriculum integration project, Get Healthy, Get Smart! which was taught to 5th, 6th, 7th, and 8th graders in 11 middle school students in central Harlem, New York. The intervention was disseminated through an integrated curriculum of Health and Science and implemented as a web-based course for the students. The health and science middle school teachers were selected to teach the new course and were allotted professional training in order to effectively implant and deliver instruction under the prospective curriculum change.

In addition to examining the impact the integrated curriculum had on the students, it was important to examine the teachers' perceptions of the professional development instruction they received as well as their implementation of the integrated curriculum in their classroom. This is essential because teachers are the heart of every reform and the
extent to which they are provided with suitable training and support has an impact on student success.
Acknowledgements

I thank God for guiding and sustaining me throughout this endeavor. Deepest gratitude also does out to my mentor Dr. Elaine Walker. Thank you for your patience, understanding and expertise throughout this research. Every time we spoke, I was so appreciative of the pearls of wisdom you imparted. I am in awe of you and will consider you my friend forever. I also extend my sincerest thanks to Dr. Robert Morgan. I have known you for 13 years and have always admired and respected your intelligence and compassion. It means a lot to me that you are a part of this accomplishment in my life. I also give special thanks to Dr. Martin Finkelstein. It was such a pleasure to meet you and I appreciate how you extended you support and assistance to me.

I thank my wonderful parents, sister and brother Mohamed, Bibi, Rafeeza, and Asif Shahabudeen and for their encouragement, prayers and love. You make me feel like I can do anything and I am happy to make to make you proud. God has blessed me with much and I want to be a blessing to others.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................... ii

ACKNOWLEDGEMENTS ..................................................................................... v

LIST OF TABLES ............................................................................................... vi

LIST FIGURES ...................................................................................................... vii

I INTRODUCTION ............................................................................................ 1

   Background of the Study .............................................................................. 1
   Statement of the Problem ........................................................................... 14
   Theoretical Rationale .................................................................................... 14
   Importance of the Study ............................................................................. 17
   Significance of the Study ............................................................................. 17
   Definition of Terms ....................................................................................... 19

II REVIEW OF THE RELATED LITERATURE ................................................... 22

   Introduction .................................................................................................... 22
   Health Dilemmas Faced by Adolescents ....................................................... 22
   Fitness and Nutrition ..................................................................................... 26
   Schools and Adolescent Health ................................................................... 29
   Science Reform ............................................................................................... 33
   Integrated Constructivist Approaches ......................................................... 37
   Results of Curriculum Integration ............................................................... 38
   Professional Development ............................................................................ 47

III RESEARCH METHODOLOGY ...................................................................... 54

   Introduction .................................................................................................... 54
   Context for the Study ..................................................................................... 57
   Subjects and Subject Selection Description ............................................... 58
   Teacher Assessment Surveys ....................................................................... 61
   Facilitators’ Interviews ............................................................................... 62
   Students’ Questionnaires ............................................................................. 63
   Data Collection ............................................................................................... 63
   Data Analysis ................................................................................................. 65

IV FINDINGS AND ANALYSIS .......................................................................... 67

   Introduction .................................................................................................... 67
LIST OF TABLES

Table 1: Guskey’s Five Critical Levels of Professional Development Evaluation........55
Table 2: Study Design........................................................................................................57
Table 3: Instrumentation..................................................................................................60
Table 4: Disclosing the Data and Analysis Method to Answer Research Questions.....65
Table 5: Summary of Facilitator A’s interview...............................................................73
Table 6: Summary of Facilitator B’s interview...............................................................74
Table 7: Facilitator C’s Observations in Classroom.....................................................81
Table 8: Facilitator D’s Observations in Classroom.....................................................82
Table 9: Get Healthy, Get Smart! Professional Development Experience.................86
Table 10: Get Healthy, Get Smart! Teacher Survey.......................................................87
Table 11: Get Healthy, Get Smart! Teacher Survey-Support.........................................89
Table 12: Get Healthy, Get Smart! Teacher Survey- Confidence in Application of PD Concepts.................................................................................................................92
Table 13: Students Motivation & Excitement...............................................................93
Table 14: Teachers’ Perception of Students’ Issues......................................................94
Table 15: Student Changes Resulting from GHGS!......................................................96
Table 16: Peer Pressure................................................................................................100
Table 17: Exercise Habits..............................................................................................101
Table 18: Eating Habits.................................................................................................103
Table 19: Self Esteem....................................................................................................104
Table 20: Family Relationships....................................................................................105
Table 21: Aspirations.................................................................................................107

Table 22: Ability to Make Decisions........................................................................108

Table 23: Locus of Knowledge..................................................................................109
Chapter I
Introduction to the Study

Background

Health is a major concern for many people in the United States. The increasing trend toward a healthier lifestyle is an issue for a growing number of adolescents. Promoting healthy lifestyles was the premise of the Get Healthy, Get Smart! program, which was funded by the Elton John AIDS Foundation and implemented in 11 targeted middle schools in Central Harlem, New York during the 2007-2008 school year. The program was then expanded to 40 schools with approximately 6,000 students participating from Central Harlem and Bushwick, New York during the 2008-2009 school year.

Many adolescents are aware of the need to incorporate healthy habits into their lifestyles; however, due to varying circumstances, many do not take heed. Thus, unhealthy habits such as improper nutrition, lack of exercise, and unhealthy sexual practices occur in their lives (Irwin, et al, 2002). Examples of behaviors which lead to such unhealthy habits, include America’s exorbitant spending solely on fast food items. According to the book Fast Food Nation, more than $110 billion was spent on fast food alone. This figure increased tremendously from an already high number of $6 million in 1970. More money was spent on fast food than on higher education, personal computers, computer software or new cars collectively (Schlosser, 2002). Schlosser (2002) also reported, “Fast food is now so commonplace that it has acquired an air of inevitability, as if it were commonplace, a fact of American life.” (p.7) There are also at least 9 million children over age 9 who are considered to be obese (Rogers, 2009).
More detrimentally, fast food is also heavily marketed to children. Schlosser (2002) reported a survey in which 96% of American school children correctly identified Ronald McDonald who came in second to Santa Claus. His case in point is the reality that the Golden Arches are more widely recognized than the Christian cross. An intimate familiarity of these amenities has led to unhealthy eating habits which in turn have contributed to the nation’s youth being overweight. Additional factors which lead to increased weight gain include increasing portion sizes, eating out more frequently, increased consumption of sugar sweetened drinks, watching TV, gaming and computer screens for longer periods of time, changing labor markets and fear of crime which prevent outdoor exercise (Campbell, 2009).

In a study conducted by Campbell (2009) 12 urban minority adolescents were asked to document their daily food choices in a diary in order to explore their independent food selections. Overall, the study found that the students consumed generally adequate amounts of meat, poultry and dairy products according to the US Department of Agriculture’s (USDA) Food Guide Pyramid and recommended daily dietary allowance. The students’ consumption of vegetables measured below the recommended amount of two and one half cups per day. Fruit servings also averaged below the recommend daily allowance with many students miscomprehending that fruit juices and fruit-flavored beverages were equivalent to fruit servings. The students also consumed adequate amounts of bread, rice and pasta. However, many empty calories were consumed in the forms of artificial fruit drinks, soda and candy. Students rarely drank water.

Body mass index (BMI) is the ratio of height and weight. For children and adolescents between ages 2 and 20, their BMI determines if they are underweight, normal weight, “at risk” for overweight or overweight (American Heart Association, 2005). Children are categorized as
overweight when they have a BMI between 25 and 30, while obese children are those who have a BMI of at least 30. The normal BMI range is 19 (Campbell 2009). Approximately one third of the nation’s children between the ages of 6 and 19 are overweight and obese, meaning they have a BMI equal or greater than the 85th percentiles (Ogden et al, as cited in Hampi et al, 2009).

Urban youths are especially susceptible to being overweight because there may be fewer opportunities to exercise due to lack of knowledge of the benefits exercise provides as well as a lack of school or community sponsorship of sport leagues and youngsters (National Urban Technology Center, 2008). The numbers of those who are overweight and obese are almost double that for Hispanic adolescents as compared to non-Hispanic Caucasian teens (American Heart Association, 2005).

Another pressing issue concerning adolescents is their sexual and reproductive health. High risk sexual behavior among adolescents is a recognized problem in the United States (Kim-Goodwin, 2007). The main issues include early pregnancy, HIV/AIDS and other sexually transmitted infections (WHO, 2005). The HIV epidemic affects adolescents and young adults disproportionately. Globally, 50 percent of new HIV infections are in the 15-24 age group (UNAIDS, 2006). In the U.S. HIV/AIDS among adolescents and young adults continues to contribute substantially to the epidemic. About 92% of adolescents and young adults most often contact HIV through sexual intercourse, while 8% acquire the disease through drug use. Male adolescents are most often infected through sex with men. Female adolescents are most often exposed through heterosexual contact. HIV infection is the ninth leading cause of death for those aged 15 through 24 and the sixth leading cause of death for those aged 25 to 44 (CDC, 2006).

There is a rising concern about HIV/AIDS among adolescents and young adults between ages of 13 to 24 in the United States. (The Centers for Disease Control and Prevention, 2004)
reported 40,049 cases of AIDS among people ages 13 to 24. At least 10,129 adolescents and young adults with AIDS have died and those diagnosed with AIDS has also increased. Also, the number of adolescents and young adults with an AIDS diagnosis has increased from 3.9% in 1999 to 4.2% in 2004. African-American and Hispanic adolescents have been even more affected by the HIV/AIDS epidemic. In 2003, sixty six percent of reported AIDS patients were African American and twenty-one percent were Hispanics between the ages of 13 and 19 (National Institute of Allergy and Infectious Disease, 2006).

Since it takes about 10 years for the HIV infection to develop into AIDS, most adults in their twenties with AIDS were likely infected with HIV as adolescents or young adults (National Institute of Allergy and Infectious Disease, 2007). In 2004, approximately 4,883 people were diagnosed with HIV/AIDS, while an estimated 18,293 were living with HIV/AIDS. However, health experts estimate the number of adolescents and adults living with HIV infection tends to be much higher. Also, approximately 25% of cases of sexually transmitted diseases (STDs) reported in the United States each year occurs among teenagers. This is important because the risk of HIV transmission increases substantially if either partner is infected with an STD. Most heterosexual HIV positive adolescents contract the disease primarily because of the locations where they live. They tend to reside in urban inner cities with a high neighborhood prevalence rate which typically results from high rates of drug use and drug dealing. The high rates of HIV transmission are associated with more frequent intercourse, less consistent use of condoms, multiple sex partners within shorter periods of time and the presence of co-occurring sexually transmitted disease.

Though statistics paint a depressing picture of health for the nation's youth, the state of health conditions in Central Harlem, New York are even more dismal because its numbers
surpass those of the whole city. For example, listed in New York City Department of Health and Mental Hygiene’s Community Health Profiles 2006, substance abuse and depression in Central Harlem were twice as high as that in the whole city of New York. The HIV-related death rate was 40% greater than that in the city. Conditions such as no exercise, diabetes, obesity and smoking also rated higher in Central Harlem alone compared to that of entire New York City.

Adolescence is an optimum time to promote healthy behaviors since it represents the period in a child’s life when he or she experiences rapid physical and cognitive changes, expanding social relationships, and additional rights and responsibilities (Adams & Berzonsky, 2005). In addition, during adolescence, the individual physically changes and requires increased nutrients to support this new growth and development (Story & Stang, 2005). It is, therefore important, according to Evans et al (1995) that knowledge be transmitted and opportunities allotted for obtaining good health for adolescents, because they begin to establish behaviors in adolescence that will affect their health later in life. The health habits they learn at this time also often continue into adulthood (Videon & Manning, 2003).

With regard to sexual knowledge, according to the Committee on Psychosocial Aspects of Child and Family Health and Committee on Adolescence, (2004) it is critical to present sexuality education programs to young adolescents in fifth or sixth grade in order to help delay sexual activity. Abstinence only programs have not demonstrated successful outcomes in delaying sexual activities or practicing safe sex (Klein, et al, as cited by Committee on Psychosocial Aspects of Child and Family Health and Committee on Adolescence, 2004). Educating children about their sexual health in school settings has been effective because adolescents who receive HIV and sex education are less likely to engage in sexual activity and more likely to engage in safer sexual activity (Ahmed et al., 2006).
Facilitating responsible sexual behavior to prevent unintended pregnancy and sexually transmitted diseases among adolescents is a national priority (Kim-Goodwin, 2007). An alliance should be formed between public schools and public health in order to address the health and education needs of the children. Schools are one of a child’s most significant social institutions where the development of knowledge and skills to promote health to prevent diseases can be addressed. These skills are equally important to a well-rounded education, as are traditional academic subjects such as reading, writing, and arithmetic. Adolescents should be taught proper health and nutrition in school because often times, many adolescents look to their peers as one of the most important sources on health topics such as sex and drugs (Coleman et al., 2007, pg 186). Although children learn about health at home with others such as peers and families, the school environment is also an important influence (Hampi et al., 2009). The experiences from outside the home such as schools play increasing roles in the development and choices that adolescents make (Papalia et al., 2005). Since more than 95% of American children attend schools, they surpass all other institutions in terms of continuous and intensive contact with students during the first 2 decades of their lives (Story et al., 2006). Schools can help prevent childhood obesity by promoting proper nutrition, physical activity, and healthy weights among children (Wilson, 2007).

Effective school intervention to prevent HIV is essential for adolescents because many children have not been educated in the risks of intercourse. Information from 54 focus groups in Pennsylvania indicated that one of the factors which impeded HIV prevention among adolescents was that television was their primary source of information (Silvestre et al., 2002). In Connecticut, two hundred and nine sexually active adolescent females were asked about their history of sexually transmitted infections and corrected risk-taking behavior, such as having
unprotected sex. Almost 90% of the adolescents perceived little or no risk of infection even though 75% had reported a previous infection or current high risk sexual behavior (Marcovitch, 2003).

Sexual health information also needs to be presented at an early age. A study coauthored by Lohman (2009) found that among 100 low-income families, one in four children between the ages of 11 and 16 had already had sex with their first sexual encounter having occurred at the average age of 12. Lohman (2009) reported, that if 12 years was the average age that children began engaging in sexual intercourse, this meant that some kids were starting at 10 or younger. Also, a handful of kids reported having sex as early as 8 or 9. It is important that adolescents learn about caring for their bodies early because sex education provided in high schools starts too late to promote sexual abstinence and, among the sexually active, safer sexual practices (Epstein, et al., 1994).

Even if many young people have not yet had sexual intercourse, early adolescence is an important stage in which to intervene for several reasons. Sexual maturation begins to occur at this age. For many of those adolescents who are not having sex, their sexual curiosity and intimate relationships have most likely begun. Given the importance of intervening before adolescents are at risk of contracting HIV, it is essential to understand their behaviors, their amount of sexual knowledge and their levels of access to sources of sexual information and services (Bankole, 2007). Many children are still attending school during early adolescence. The high levels of attendance allow schools the opportunity to provide information on their sexual and reproductive health (Bankole, 2007).

It is important to take preventative measures to avert childhood obesity because at least 70% of the overweight and obese youths will become obese adults (Finkelstein et al, 2004).
Obesity exacts heavy tolls on the individual as well as the country. In 2003, the nationwide cost of treating obesity and its related conditions was estimated to be about 75 billion dollars (Hampi et al., 2007). This figure later rose to 100 billion dollars and accounts for about three quarters of all US health care costs (Levine, 2007). Obese children also experience seriously adverse medical conditions including type 2 diabetes, fatty liver associated with excessive weight, sleep apnea, elevated blood pressure, orthopedic problems, anxiety, depression and social isolation (American Heart Association, 2005, Ludwig 2007 as cited in Blackburn & Fulgoni, 2008). These serious health risks can also lead to decreased school attendance which in turn affects the physical, cognitive and emotional growth and development of the individual throughout his or her childhood and adolescent years (Campbell, 2009). In addition to the health risks, overweight teens also tend to have fewer friends, have difficulty networking with peers, and are more prone to suicide if they are teased about their weight (American Heart Association, 2005). Though the present condition of adolescent health seems morose, the future will be even bleaker if preventative measures are not taken (Levine, 2007).

In order to function well in the world's global and technological society, children must be assisted in becoming healthy and educated adults (James & Adams, 1998). An integrated curriculum which stresses the importance of health and disease control in conjunction with academic subjects can help students to do so. Programs which link educational curricula with information about reproductive health services and comprehensive community based interventions have reported reductions in pregnancy rates (Committee on Psychosocial Aspects of Child and Family Health and Committee on Adolescence, 2004). It is particularly relevant for adolescents especially the very young, for whom many are yet to be sexually active to be educated in protecting their sexual health. They will be able to make more informed and
responsible decisions when they do initiate sexual activity (Bankole et al., 2007). Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family (Anan, 2009).

Curriculum integration is a mechanism for helping children view school content outside of presupposed historical or academic boundaries. The advantage of integrating topics is that students experience comprehensive treatment of a topic and can work on different aspects of the central idea. An integrated approach can introduce connections and juxtapositions that capture the learner’s imagination and allow the child to work in preferred areas of interest and styles while encouraging a broader perspective (Grant & Paige, 2007).

The concept of curriculum integration can be problematic because of the separate subject approach which is rooted in traditional Western education. Parents and other adults are reluctant to become involved in versions of the curriculum which are different from their own schooling. Studies, however, including the Eight Year Study of 1993 and others indicate that young people tend to do at least as well as and often better on traditional measures of school achievement when curriculum integration takes place (Beane, 1995).

The Get Healthy, Get Smart! initiative is one such program, which focuses on integration. This program was funded by the Elton John AIDS Foundation to be applied in middle schools from selected areas in New York City. This foundation supports among other goals, innovative HIV prevention programs. It has increasingly sought out to publicly support and communicate about HIV efforts such as youth and sexual health. They also allot funding to target populations that are poorly served by current prevention efforts and who are most at risk of infection. The Elton John Foundation (www.ejaf.org) asserts that funding is necessary for programs that improve sexual and reproductive health options for youth. Several studies have determined that
comprehensive sex education programs that include information about both abstinence and contraception can be effective at helping youths reduce their numbers of sexual partners, increase condom use when they have sex, and even delay having sex.

This initiative to provide an intervention for adolescents was presented in the form of an integrated curriculum of Health and Science that was implemented as a web-based course for the students. The new curriculum was taught to the teachers at Bank Street College by its facilitators. The integrated curriculum was designed by the National Urban Technology Center (Urban Tech), which was established in 1995 to provide opportunities for low income communities to have access to computers and computer training. Urban Tech collaborates with community-based organizations such as schools and social service agencies to train teachers and provide technical assistance. One of the programs that Urban Tech uses to fulfill its mission is the Youth Leadership Academy (YLA). Urban Tech's primary focus is to “Promote learning, academic performance, and workforce preparation among disadvantaged young people: and to provide adults with the resources necessary for long-term employability and economic security” (Urbantech.org/mission.cfm).

The YLA program implements current educational technology and pedagogical approaches to enhance the academic curriculum and professional development that assist educational staff in engaging students increase academic performance and reducing at-risk behaviors. YLA is distinct in its unique integration of animation contemporary music networking with core academic subjects, essential computer and internet instruction, journal writing and structured group discussion of real life scenarios for critical thinking and problem solving.

In 2005, The New York City Department of Education selected Urban Tech to integrate YLA into the Children's First curriculum and the instructional program of the New York City
Public Schools. The objectives of this initiative were to engage students and enable teachers to implement their lessons learned into topics, which were important to their lives, community and culture. Each module used for the teachings included approximately 20 hours of curriculum. The three modules included a Leadership series which incorporated Goal-Setting and Self Discovery, Team Building, Conflict Resolution, Personal Appearance, Civic Responsibility and Community Involvement; a Health Series which integrated the topics of Nutrition and Exercise, Personal Relationships, Substance Abuse Prevention, HIV & AIDS Awareness; and a Peer Series which incorporated Financial Literacy and Entrepreneurship, Educational Planning, College Preparation and Job Seeking.

The components of each curriculum contained several sections. They started with an animated short called, “On the Reel,” in which a specific challenge was raised, examined and resolved by four virtual peers. Participants were then led through a series of activities that were meant to increase their comprehension and retention of the material. “Break it Down” replayed portions of the animation as a launching point for group analysis and discussion. The activity teaches teens to identify problems, assess risk, draw conclusions, and communicate effectively. “Write to the Point” allows participants to express their individual views in an electronic journal. Youngsters use their critical thinking skills while strengthening their language and reasoning skills.

“We Got Game” takes the lesson to a physical plane, allowing teens to act on the topic and to integrate the lesson experientially through floor games and role-playing. Youth learn to trust and work collaboratively in groups. Final Answer features a TV style quiz game that measures retention without feeling like a test. It allows for evaluation and assessment of participants. There is also a glossary, library that provides links to relevant content, and
APPOLLO, which helps students organize their work in a password protected online portfolio space. It also provides tools for teachers to measure their students’ attendance and behavior quotients, assess prior and acquired knowledge through pre and post tests, evaluate performance on quizzes and questionnaires, measure progression on essays and measure outcomes for each module and the overall YLA program (www.urbantech.org/yla_interactive.cfm).

The teachers selected from the participating schools assigned to teach the new course were allotted professional training in order to effectively implement and deliver instruction under the prospective curriculum change. In addition to the professional training received, it was important to examine the beliefs of the teachers as they prepared for the paradigm shift in their new health and science curriculum, as well as their implementation of the strategies learned in their professional development courses. Their beliefs as well as their expertise and knowledge may influence the effectiveness of curriculum integration (Hinde, 2005). This is especially true since Gehrke (1998) reported that the lower the socioeconomic status of the students, the less likely schools were to report using curriculum integration at all.

Curriculum integration in conjunction with teacher training is important because teachers’ input impacts student achievement. It is essential to investigate the teachers’ beliefs and actions because every proposal to reform, restructure or transform education emphasizes the role of the classroom teacher as central in efforts to bring about the needed change (Lowden, 2005). Conditions in schools usually reflect the circumstances in society. Therefore, if teachers are expected to keep abreast of the changes in their surroundings and handle them effectively, they need to be equipped with the necessary content and skills which can be provided in professional development workshops.
Though some school districts view professional development for teachers as a “frill” that can be cut during difficult financial times, it is an indispensable process without which schools cannot hope to prepare young people for citizenship and productive employment (Sparks & Hirsh, 1997).

With regard to children's sexual health, teachers are a vital factor to the success of the school based sex education programs (Kirby, 2002). In order to teach the sensitive and provoking topics sex education entails, it is necessary they receive the necessary specialized and effective training (Schaalma, et al, 2004). Equipping the teachers with the appropriate skills prior to the program’s implementation is important because it increases the integrity with which teachers implement the given curriculum (Ahmed, 2006). The extent to which teachers are provided with suitable training and support in the participatory teaching methods required for sex education plays an important role in the success of HIV programs (Boon et al, 2003).

It is also essential that the professional development teachers engage in be functional. Linda Darling Hammond (1998) succinctly summed it up when she asserted: that professional development should be directly connected to teachers’ daily work with students, relate to content areas, address real life problems, and be continuous and ongoing. Hammond (1995) additionally determined factors, which worked well in professional development. She resolved that first teachers should collaborate with each other as well as form partnerships with others such as universities and other mutual agencies. Their goals in these partnerships are focused on students and their learning instead of techniques and tools for teaching. Second, good professional development is experiential. Teachers are concretely involved in observation, teaching, and reflection. They participated first-hand in these experiences rather than hearing about them abstractly. Third, teacher-learning opportunities are participant driven as well as based in inquiry.
and experimentation. Fourth, these opportunities occur over a long duration of time; they are sustained, ongoing and intensive. They also allow for collaboration and interaction. Darling explained that these strategies involve teachers learning much the same way students are expected to be taught. They are learning by doing, reflecting, collaborating and sharing.

Statement of the Problem

Today’s adolescents are bombarded with challenges including high risks of being susceptible to obesity and HIV. In the past 20 years adolescent obesity has tripled in the nation. These children’s state of health contributes to the 400,000 deaths and 117 billion dollars in health care and related costs each year (Basset & Perl, 2004). Equally disturbing is the number of adolescents who have been diagnosed with sexual health diseases. Of the 15 million new cases of STDs reported each year in the nation, at least 10 million of these occur in adolescents (Sulak, 2004.)

This study focused on the results of the implementation of a newly integrated health curriculum called Get Healthy, Get Smart! with adolescents from 11 middle schools in Central Harlem, New York. The middle school students represent the nation’s adolescents for whom obesity and sexual health have become a great concern. This research examined the perceptions of the targeted teachers who were taught to implement a never before used integrated curriculum with their students as well as the effects on the students’ behaviors and knowledge based upon the teachings they received. Thomas Guskey’s (2000) model for evaluating professional development, “Five Critical Levels of Professional Development Evaluation,” was used to direct the research questions for this study. Utilizing the 5 levels of evaluations in Guskey’s model such as participants’ reactions and learning in a professional development environment, organizational
support and change, participants’ use of new knowledge and skills and student learning outcomes were imperative in conducting this study because each criteria related to all aspects of the Get Healthy, Get Smart! program. These components included the teachers who experienced the professional development training, the workshops’ facilitators’ support and implementation of the integrated curriculum, and the students’ outcomes based on the teachings they experienced.

Theoretical Rationale

Guskey (2000) asserted that in order for staff development to impact students, it must first have an impact on the teachers who participate. How does one effectively evaluate staff development? Guskey (2000) also stated that while educators have evaluated professional development for many years, rarely have the evaluations been insightful or informative. They hardly ever provide the information needed to establish reforms in professional development which would improve its effectiveness. Useful feedback is pertinent for professional development activities, because critics (Tienken, C.H, & Achilles, C.M. (2005), Yoon et al 2007) claimed that many professional developments are not effective in showing measurable gains in student achievement.

Guskey (2000) affirmed that professional development should be an intentional process which begins with a clear statement of purpose and goals which are worthwhile. It is also important to determine how the goals will be assessed. Since education is such a dynamic field with continuous change and an expanding knowledge base, professional development should also be an ongoing process. It should also incorporate a systemic process, which considers change over an extended period of time. He claimed that many professional development endeavors were unsuccessful because they lacked focused planning, did not relate to the
teachers’ needs and therefore, did not affect the teacher’s instructional practice. A more thoughtfully planned, well designed could improve professional development effort to change teachers’ attitudes and therefore their teaching.

Effective evaluation procedures are also necessary to better understand those specific effects of professional development as well as the conditions of its effectiveness (Guskey, 2000). Guskey’s (2000) model for evaluating professional development integrates five critical levels of professional development; participants’ reactions, participants’ learning, organization support and change, participants’ use of new knowledge and skills and student learning outcomes. Utilizing these criteria when evaluating professional development training will serve as a useful measure of its effectiveness, because evaluations must examine how to better understand the influence of professional development and its impact on student learning (Guskey, 2000).

**Importance of the Study**

The results of this study will be beneficial to educators, facilitators, and others who design and are interested in the components of effective professional development as well as the implementation of curriculum integration. Since teachers are such a pivotal force in any educational reform initiative, it is essential to examine those factors that positively influence their perceptions of the discipline in which they will engage students as well as their actual practices in the classroom. Equally important is the examination and thus remediation of those factors which are not as successful in teacher’s professional development. This study may inform those who support the aims of professional development in improving student achievement.
Purpose of the Study

Given the current state of adolescents' health, especially those in Central Harlem, New York, it is essential that schools play a role in educating students on the benefits of proper nutrition, exercise and prevention of STDs. The Get Healthy, Get Smart! program provided an integration model and activities to facilitate the teaching of the new integrated health curriculum. Since the teachers were responsible for executing a never before used health curriculum in conjunction with their traditional science teachings, it was imperative that they received and utilized the proper training. The teachers then disseminated the integrated curriculum to their students in order to foster better health practices and education. Information about the students' lifestyles and knowledge were recorded before and after exposure to the integrated health modules in order to obtain a comparison of how much the students learned.

This study examined the changes to their health attitudes and behaviors that the middle school students demonstrated as a result of being involved with the Get Healthy, Get Smart! integrated curriculum. It also examined the teachers' attitudes and perceptions of the professional development they received, their use of the concepts and materials obtained and their implementation in the classroom.

Research Questions

1. What is the relationship between the professional development the teachers experienced and their implementation of the integrated curriculum?
2. To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?

3. What are teachers’ perceptions regarding the most successful aspects of the professional development program?

4. To what extent did the professional development have an impact on students’ health attitudes and behaviors?

The research questions which were used to focus this study are directly related to Guskey’s model. The first research question asked: What is the relationship between the professional development teachers received and the implementation of the Get Healthy, Get Smart! integrated curriculum? This question focused on Guskey’s level of evaluation in his model which evaluated the participants’ use of new knowledge and skills to determine how effectively they applied the knowledge and skills they learned in their workshops.

The second research question asked: To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices? This question aligned with Guskey’s level of evaluation which examined the participants’ learning and acquisition of the intended knowledge and skills of their workshops. This question is also linked to Guskey’s level of evaluation which measures organization support and change. It assesses the
impact of the professional development, how quickly and or efficiently problems were handled and if resources were made available.

The third research question asked: What are teachers' perceptions regarding the most successful aspects of the professional development program? This question encompassed Guskey's level of evaluation which measured participants' reactions. The participants' reactions addressed factors including how well they liked the workshop, if their time was well spent, if the material made sense and its use to the teachers. The participants were also asked questions about the workshops' facilitators in order to ascertain how knowledgeable and helpful they were to the participants.

The final research question in this study asked: To what extent did the professional development of an integrated curriculum have an impact on students' health attitudes and behaviors? This question correlated to Guskey's level of evaluation which asked about student learning outcomes. It focused on the impact and influence of the workshops' teachings on the students which was implemented by their teachers.

**Limitations of the Study**

The limitations of this study included the small sample size of teachers and the ability to generalize to other professional development experiences.
Definition of Terms

1. Curriculum Integration - Curriculum integration is a curriculum design that promotes personal and social integration through the organization of curriculum around significant problems and issues, collaboratively identified by educators and young people, without regard for subject area lines (Beane, 1997).

2. Professional Development - Opportunities offered to educators to develop knowledge skills, approaches and dispositions to improve their effectiveness in their classrooms and organizations.

3. Teacher perception of professional development (six levels) based on Guskey's 2002 model of teacher change and evaluating professional development.
   a. Participant satisfaction - the level of satisfaction the participants felt about their professional development experiences in the school district in general
   b. Participant learning - the level at which the participants acquired the intended knowledge and skills through professional development offered by the district.
   c. Organizational support and resources - the level at which the school district shows support for professional development by allocating resources and incentives for teachers.
   d. Implementation of new knowledge, skills and instructional pedagogy - the extent to which the participants applied their new knowledge and skills in their classroom teaching.
   e. Perception of student learning - participants' perceptions of how their learning through professional development affected student performance or achievement of the students in their classrooms.
f. Change in attitudes and beliefs – the ideas, judgments and values teachers have about teaching and education in general. These beliefs and attitudes affect their behavior in the classroom.

which the participants applied their new knowledge and skills in their classroom teaching.

g. Perception of student learning – participants’ perceptions of how their learning through professional development affected student performance or achievement of the students in their classrooms.

h. Change in attitudes and beliefs – the ideas, judgments and values teachers have about teaching and education in general. These beliefs and attitudes affect their behavior in the classroom.

Training- A variety of characteristics with the purpose of presenting skills designed to improve job performance. It is the most common form of a professional development model, as well as the most efficient and cost effective. Training is often used to describe professional development opportunities involving a presenter, group based projects discussions, workshops, seminars, colloquia, demonstrations, role playing, simulations and microteaching (Guskey, 2000).
CHAPTER 2
REVIEW OF RELATED LITERATURE

Introduction

In this chapter, the researcher reviews the research literature related to the constructivist theories of learning and curriculum integration, as well as that of teachers' beliefs and perceptions concerning their professional development. These issues provide the theoretic framework for this study about teacher's beliefs and perceptions in the curriculum integration of Health and Science in eleven public schools in Central Harlem, New York.

The review contains the following components: (a) a description of current health dilemmas faced by the adolescents; (b) the school's influence on adolescent health; (c) science reform (d) the bearing of Progressive education on student learning; (e) the benefits of curriculum integration and (f) teacher training and professional development.

Health Dilemmas Faced by Adolescents

In 2000, there were approximately 40.7 million adolescents (children ages 10-19) nationwide. This number is projected to keep increasing through 2050 (National Adolescent Health Information Center, 2003). Although adolescents may be perceived to be healthy
compared to younger children and adults, the reality is that adolescents face unique health care challenges. Among these conditions are; obesity, sexually transmitted diseases, and substance abuse (Centers for Disease and Prevention [CDC], 2004). They are also beset with adult sized health problems such as diabetes, hypertension, arthritis, stress and anxiety (Donoghue, 2004).

Childhood obesity has become a national epidemic. In the 1960s, 5% of teens were overweight. These numbers then increased to 14% in 2000 (Ogden, et al as cited in Butcher, et al 2008).

Currently, one in three American children are overweight or obese (actionforhealthykids.org, 2009). In the United States, the rates of obesity have more than doubled for children ages 2 to 5 and more than tripled for those ages 6 to 11 (Rogers, 2009). Childhood obesity is rapidly rising and children of all ages, genders, and ethnicities are at risk (Anonymous, 2005).

Many unmet health needs emerge for adolescents. These unmet needs were recognized by the United States Public Health Service (US Department of Health and Human Services, 1991) whose year 2000 goals specifically targeted adolescents for special risk reduction efforts in the areas of nutrition, physical activity and fitness, substance use, sexual behaviors, violence, unintentional injury, oral and mental health (Millstein et al, 1994).

Although many of these illnesses may not show themselves while children are in their teens, they may surface during adulthood. The World Health Organization, (WHO) asserted that many serious diseases present in adulthood had roots in adolescence. These conditions included STDs including HIV and poor eating and exercise habits which lead to illnesses or premature sicknesses later in life (WHO, 2008).

Sexual behaviors, which lead to sexually transmitted diseases and unintended pregnancies, also represent a major health problem for youths in America. The rates of sexually transmitted diseases were reported to be higher for adolescents and young adults than for any
other age group in America (Shafi et al., 2007). Also, the rates of sexually transmitted diseases, teen pregnancy and teen births were higher in the United States compared to other industrialized countries (Singh, & Darroch, 2000 as cited in Kohler et al., 2007). One million American adolescent females become pregnant annually and 78% of those pregnancies are unintentional (CDC, 2000).

The US Centers for Disease Control and Prevention (CDC) released the Youth Risk Behavior Survey (YRBS) in 2005. This survey was designed to measure adolescent risk behaviors including sexual behavior, alcohol and other drug use, unhealthy nutritional behaviors, physical inactivity and behaviors, reported that 46.8% of the nation’s high school students have had sexual intercourse, and of those students who are currently sexually active, 14.3% have been sexually involved with four or more partners. These results of the YRBS were randomly administered across the nation every other year, to a nationally representative sample of students in high school. This group comprised 28.2% Black students, 15.9% Hispanic students, and 11.4% White students. In addition, nationwide, 6.2% of students had had sexual intercourse for the first time before age 13. The occurrence of students having had sexual intercourse before the age of thirteen was higher among Black students (16.5%) than Hispanic students (7.3%) or White students (4%) (CDC, 2006). Students reporting having had sexual intercourse included 67.6% Black students, 51% Hispanic students and 43% of White students. Emerging research suggests that younger siblings of teen parents are at an increased risk for being part of a pregnancy (National Campaign to Prevent Teen Pregnancy, 2005).

Adolescents who engage in unsafe sexual practices place themselves at considerable risk for contracting sexually transmitted infections, including HIV (Simbayi et al., 2005). HIV is the human immunodeficiency virus, which damages or kills the cells responsible for fighting
infection. In 2005, there were at least 5,000 adolescents with ages ranging from 13-24 who were diagnosed with HIV/AIDS (Department of Health and Human Services, 2008). AIDS was also reported as the 7th most common cause of death among youth aged 15 to 24 (Hoyert et al., 1999 as cited in Rotheram-Borus, 2000). Bleakly and Ellis (2003) reported that the risk of acquiring a sexually transmitted infection is highest during adolescence and about half of all new HIV infections occur among individuals younger than 25 years old.

Not only are many teens infected with HIV, but also an alarming amount of them are females. The CDC (2004) reported that one in four girls ages 14-19 who participated in a health survey were infected with STDs. The survey found that 18% of the females were infected with human papillomavirus, which can cause cancer, which can cause cervical cancer. Another 4% carried Chlamydia, which could lead to infertility. Another 2.5% of them had trichomoniasis, and the 2% had genital herpes. Four years later, the CDC (2008) conducted a similar study and found (2008) that an alarming 48% of African American girls ages 14-19 had an STD. The number of infected teens had almost doubled within 4 years. Also, the rates of gonorrhea among females ages 15-19 were twice as high and the rate of Chlamydia was five times as high as those of males of the same age group (Kohler et al., 2007). Based on this data, there is no question that teens are in dire need of help in avoiding the serious consequences of having sex without adequate knowledge and protection.

Many adolescents may be unaware of how they can contract sexually transmitted diseases. The Kaiser Family Foundation National Survey of Adolescents and Young Adults: Sexual Health Knowledge, Attitudes and Experience surveyed participants' knowledge of sexually transmitted diseases. In this survey, researchers found that 19% of the teenage participants did not know that STDs could be passed from person to person through sexual
intercourse. In addition, 33% were not aware STDs could increase the risk of HIV/AIDS, and 24% did not know that STDs could cause infertility. Furthermore, 25% of the participants indicated they believed that there would be a way of knowing if a dating partner had an STD, and 20% thought STDs could only be spread if there were symptoms present. Finally, 12% considered STDs nothing to worry about unless they were having sex with many people, while 10% believed STDs to be a nuisance without any real serious health effects (SIECUS, 2003).

Although sexually active adolescents and young adults had the highest rates of sexually transmitted diseases in the United States, they were the least likely to seek and receive health care than any other age group. If the infected young people delay or avoid seeking health care, they may be at an increased risk for transmitting infections to sexual partners and experiencing long-term negative effects such as infertility, chronic pelvic pain, or cancer (Bleakly & Ellis, 2003). However, if they participate in preventive health programs during their adolescent years, they may build positive health behaviors that may continue throughout adulthood (Devanteer, et al., 2005).

Fitness & Nutrition

In addition to the high rates of sexually transmitted infections, adolescents in the United States also face problems with fitness and nutrition. There are at least 155 million children worldwide who are overweight or obese (Hossain, et al., 2007). Twenty five million of that population consists of American children (National Center for Health Statistics NCHS, 2005). Overweight adolescents ages 12-19 increased at an almost tripled rate of 6% from 1988-1994 to 16% from 1999-2002 (Hedley, et al, 2004 as cited by Wang, 2008). America’s overweight teens consume at least 1000 calories more than they are required each day (Rogers, 2009). “F as in
Fat: How Obesity Polices Are Failing in America,” (2008) reported that today’s children are likely to be the first generation to live shorter, less healthy lives than their parents. Reasons for their conditions stemmed from lack of physical activity and poor nutrition choices.

A study conducted by Butcher, et al (2008) revealed that a large number of adolescent boys and even larger number of adolescent girls did not meet the U.S Dietary guidelines of 60 minutes of moderate physical activity daily. They concluded that about half of the urban adolescents nationwide appeared to be increasing their risks for multiple physical and mental health problems.

Croll, Neumark-Sztainer & Story (2001) also examined the importance of healthy eating among adolescents and reported that the children found it difficult to adhere to healthy eating practices for several reasons; time, limited availability of healthy foods and their lack of concern regarding healthy eating recommendations. The practice of eating three meals a day has also decreased within the last 25 years among adolescents. More teens snack frequently and their snack choices are not always healthy. For example, potato chips provided more than 1/3 of all their vegetable servings (Sebastian, et al, 2008). The Experimental Biology Scientific conference in 2005 found that the foods which contributed the most to a teenager’s diet were sodas and fruit drinks. These sweet drinks provided more than 13% of a teenager’s total daily calories - even more than cakes, cookies and other sugary foods. The sodas and fruit drinks constituted more than half of all the sugars they consumed (Maki, 2005).

In another study, the California Teen Eating, Exercise, and Nutrition Survey (Cal TEENS), a comprehensive statewide initiative designed to sample the eating, exercise, and body weight of California’s two million teens reported a bleak picture of the health of California’s adolescents. A third was found to be at-risk or already overweight. However, the study also found that
improvements in the teens' health behaviors were clearly linked to educational measures including having a nutrition class and working with nature (Nevarez, 2000).

Researchers from the University of British Columbia and ENVIRON Health Sciences studied the diets of more than 3,000 children and teenagers ages 2-18 using food consumption data from the government's previous national health and nutrition examination survey. They reported that American children's intake of sodas and fruit drinks continuously increased as they became older, while their milk intake declined in a similar fashion. They concluded that the sodas and sugary drinks were replacing the milk. (Maki, 2005).

Many teens drink plenty of sugary drinks and have issues with food. Gardyn (2003) reported that more than 35% of teens girls surveyed said that they often skipped meals because they were too busy. Twenty-two percent skipped meals as a way of dieting and 21% admitted that they often binged after skipping meals. About two thirds (66%) of the boys said that they drank non-diet colas and their favorite snack was chips followed by cookies and candy bars.

Adair and Gorden-Larsen (2001) reported that recent surveys portrayed an alarming trend of increased prevalence rates of overweight adolescents, particularly minorities. In the 1960s, 21.1% of Black females were overweight and by the mid 1990s, the percentage had increased to 30.7%. In addition, data from the Third National Health and Nutrition Examination Survey (1988-1991) depicted that 23.4% of Mexican American female adolescents, ages 12 to 17 years were overweight. The number of children aged 6-11 who are currently overweight has more than doubled and the number of adolescents aged 12-19 has more than tripled in the past 20 years (Ogden, et al, 2004). Teens' nutrition habits are unhealthy and the upcoming data shows that their health problems are worsening (Burt et al., 1995).
Along with academic achievement, good health habits are important in the maintenance of one's life. "Children in education represent a large number in our population in their habit forming and impressionable years" (Sliepcevich and Creswell, 1966). The authors also cited the following examples to reinforce their point of establishing good health habits early; "How easy is it to break the smoking habit of an adult? At what age do individuals first receive their introduction to alcoholic beverages? Is the overweight child likely to become an overweight adult?" They concluded that the youth segment of America's population constitutes the public health problems of tomorrow. Today's students represent the adults and parents who will be assuming increased responsibilities for their own health and that of their family and community.

Many teens are also aware of the health crisis that they face. Hughes & McCauley (1998) reported that 150 teenagers and preteens in Iradel, North Carolina who were surveyed about their health concerns listed being informed about teen pregnancy, nutrition, and physical activity as their top concerns. Recognizing that there is a problem is usually the first step in the right direction toward getting help. Therefore, it is essential that teens be provided with an optimal health education before it is too late.

_Schools' Influence and Adolescent Health_

Teens health influences their personal lives as well as their academic lives. Schools are one of the most significant social institutions where the development of knowledge and skills, which promote health and prevent diseases, can be addressed. Schools are optimal settings to teach prevention because over 90% of children are enrolled in schools (Baranowski, et al., 2002). Adolescents who receive HIV and sex education are less likely to engage in sexual activity and more likely to engage in safer sexual activity (Ahmed, et al, 2006). Learning about proper
nutrition in schools is imperative, otherwise, the dietary patterns developed during adolescence may contribute to obesity and eating disorders. They may also increase the risk for several important chronic diseases later in life (Neumark-Sztainer, 2002). Schools have the potential to make valuable contributions to the prevention and treatment of serious conditions such as obesity, because they are able to reach large numbers of children through multiple venues including classroom curriculum (Neumark-Sztainer, et al, 2003). Through proper communication about sex which can be provided via an effective curriculum, there is an increased likelihood of adolescents delaying intercourse and being sexually active at an older age (Guzman, et al, 2003).

In terms of learning about sex, Harrison, (2005) reported that although schools cannot shoulder all of the responsibility for reducing problems such as teenage pregnancy or the spreading of sexually transmitted diseases, they do have an important part to play in these areas. This is because all young people deserve knowledge about their sexual development as well as how their society expresses its sexual norms. Harrison suggested that health and sexual education interventions were effective if the following components are in place: programs are conducted by well trained and sensitive personnel; pupils have the opportunity to talk and discuss their feelings and opinions within the school community and at home; content and issues raised are appropriate for pupils’ age and maturity; and the focus of the program is on the positive aspects of sexuality.

In addition to health and sexual education, nutrition is also related to school achievement because children need proper nutrition in order to develop their minds and bodies. Well nourished students are more likely to perform better academically and to have higher standardized test scores than those students who are poorly nourished (Giradeau, 2008). The relationship between academic achievement and being overweight was examined among South Korean high school students. The study’s results supported its theory that being overweight
caused poor school performance. The high schools student’s poor performance in school was assumed to be a function of the well being variables and concern about weight (Hoon-Cho, 2009). Schools can provide the needed health education. Although the current emphasis in education is standards based, it behooves educational facilities to provide effective health education because, “It has been long recognized that health and learning are highly correlated.” (Lohrman et al, 1987). A healthy student is one who is able to perform better in school and thus has more potential to be successful. An unhealthy student is one whose attendance will inevitably decline and hinder his or her chances for academic achievement.

Also, although many illnesses may not show themselves when children are in their teens, they may surface during adulthood. Many serious diseases have their roots in adolescence. These diseases include STDs, HIV, poor eating and exercise habits which lead to illnesses, or perhaps even death later in life (WHO, 2008).

The increase in adolescents’ poor nutrition, inactivity and weight issues adversely affects their academic achievement which then ends up costing schools extra money (Anonymous, 2005). An example of the detrimental effect of poor health is that students with health problems tend to have increased absenteeism. Schools that use attendance to help determine state funding then lose money for the decreased enrollment. Another report released by Action for Healthy Kids (AFHK) asserted that poor nutrition; inactivity and weight problems can have a negative effect on student achievement. The 2004 AFHK Press Release asserted several points regarding the correlation between health and academic success. They reported that schools with high populations of students who did not regularly participate in physical activity or who did not eat well had lower test scores than other schools. They also found that students who regularly ate well nourished but skip breakfast perform worse on tests and cannot concentrate well. Children
who are not properly nourished have lower test scores, increased absenteeism, have difficulty concentrating and lower energy levels. The AFHK additionally found that physical activity programs were linked to stronger academic achievement, increased concentration, as well as improved math, reading and writing test scores. The California Department of Education also conducted a study, which confirmed that children and adolescents who were physically active performed better, academically (Albertson, 2003). Their findings coincide with Giardeau’s (2008) report of eleven studies conducted between 1967 and 2006 which demonstrated a link between regular physical activity and improved academic achievement. Those students who participated in routine physical education had more frequent attendance, a more positive attitude toward school and a superior academic performance compared to those students who did not engage in such activities.

Public health and public education should come together to form a strong partnership to address the health and educational needs of America’s children because conditions such as obesity, poor nutrition and inactivity are not conditions which will likely correct themselves (Nevarez, 2000). The 2008 F as in Fat Report: How Obesity Policies are Failing in America, reported that the strategy of focusing on personal responsibility is clearly failing. If schools do not provide adolescents with the information on risk behaviors through school based health programs or through health care providers, the treatments may be delayed or have potentially poor outcomes on the student’s health status in later years (Ziv et al., 2005). Schools and communities also have to acknowledge that most students will be sexually active before high school graduation and must therefore respond with comprehensive sex curricula to prevent detrimental outcomes (Parker, 2001 as cited by Harrison, 2005).
Schools represent one of the most significant social institutions where the development of knowledge and skills which promote health and prevent diseases can be addressed. These skills are as important to a well rounded education as reading, writing and arithmetic (James & Adams, 2008). The skills needed to maintain good health are as basic to a thorough education as reading, writing and math. Students who will participate in a global and technological society must be assisted in becoming healthy adults.

*Science Reform*

In addition to teaching health effectively, another important discipline is science. The National Science Education Standards (NRC, 1996) advocated that the nation establish the goal that all students achieve scientific literacy and that everyone has a stake, as an individual and as a society in scientific literacy. Scientific literacy is a skill that is needed by everyone to make daily choices, engage in intelligent discourse, and be informed in order to debate scientific and technological issues. There has been much discussion about how to define scientific literacy, and the working definition derived from “Science for All Americans,” a report published by the American Association for the Advancement of Science (NAAAS), (1990) stated that a scientifically literate person is “…familiar with the natural world and recognizes both its diversity and unity; and uses scientific knowledge and scientific ways of thinking for individual and social purposes” (p.4).

Miller, a scholar of scientific literacy devoted his 30 year career to studying public understanding of science and technology and its implications for a healthy democracy (Gross, 2006). Miller (1983) examined data from several national surveys, which demonstrated the lack of scientific literacy present in the United States. He discovered that scientific illiteracy ran the
gamut of the population from children to adults. He then advocated the importance of being scientifically literate for the democracy to function well. He asserted that Americans were weakening the democratic process by allowing the minority of scientifically knowledgeable individuals to interpret issues for them. This runs the risk that the issues could be intentionally or unintentionally misconstrued.

An understanding of science is imperative in the workplace, as jobs demand more advanced skills because the economic productivity of our society is tightly linked to the scientific and technological skills of our workforce. Employees need to be able to learn, think creatively, solve problems, reason, and make decisions in order to keep pace with the global markets. Although hands on work is important, experiences that require more thinking are needed to develop understanding of science and its relationship to history and the world (NRC, 1996).

In the United States, science education experienced a surge in interest when the Russians launched Sputnik in 1957. This event challenged America’s scientists, and their technology programs because Russians had “beat the United States” in the space race, giving the nation the impression that the American science community was only second best and lacked in science knowledge and ability (Rutherford, 1998). In the twenty years that followed the Soviet’s accomplishment in space, the United States spent two billion dollars to advance K-12 education in science education. This initiation of science reform emphasized the need to educate more scientists and engineers (Yager, 2000). Therefore, interest in professional development increased as the competition between the United States and the Soviet Union increased.

During the late 1970s, Yager (2000) reported a wane in science education, which quickly picked up when another blow to the United States called the Japan Shock occurred. Americans perceived that the technological and economic successes that the Japanese were experiencing
were related to the problems in United States education, especially in science and mathematics. Science underwent its second major reform in K-12 during the 1980s and was named "Science for All." The goal of this initiative was and is to develop a scientifically literate populace that can participate in both the economic and democratic agendas of the international global market focused market. Major funding was provided for new curriculum projects and new efforts to improve teaching among in-service teachers (Yager, 2000).

After the science reforms of 1980 were underway, the 1994 outcomes of the trends in the Third International Mathematics and Science Study (TIMSS) designed around five content domains; life, earth, environmental science as well as physics and chemistry, illustrated that the United States was behind other major countries in the education of its students in science. In 1995, United States fourth graders came in second of the 15 countries that had participated in the science scale score in TIMSS testing. The eighth graders’ rank in 2003 was even more discouraging as they placed in the bottom 20%. Among 20 of the countries, US high school students fared worse; their performance ranked last behind every European and Asian country (National Center for Education Statistics, 2003).

Hurd (2000) stated that science curriculum reforms which emphasize solely updating current discipline bound courses to make them more rigorous do not represent the culture of today’s science. He claimed that this approach was used in the 1930s and 1940s, when “principle and generalizations” of each discipline were identified by researchers as the foundation for updating the school curricula. The National Science Foundation financially supported science curriculum reforms of the 1960s and 1970s which were actually just an update of the previous 1930s-1940 reform when the slogan was “get back to fundamentals.” The recent standards movement of the 1980s and 1990s is also similar in concept to the previous science education
reform efforts. Hurd recalled Albert Einstein when he commented that a problem could not be solved by repeating the thinking that caused the problem.

The rationale for the benefits of integrating disciplines can be more clearly seen as Hurd (2000) continued that science research was becoming more cross or transdisciplinary, relating the natural and social sciences for the planning of human resources including agriculture health, education and the environment. He also believed that the revamping of the science curricula emphasized the future. Its goals were addressing the unresolved issues currently confronting science and society, such as the control of emerging diseases, biotechnology and human nutrition, a better understanding of the nature of the universe, new communication system, and climate control. The science standards document (NAS, 1996) also entreated teachers to connect science to other content area and to select science content and adapt and design curricula to meet the interests, knowledge, understanding, abilities and experiences of the students.

Such an opportunity was presented to integrate science with another discipline in order to address the issue of the image of nutrition, which according to Zeisel et al (2001) is one of the most important tasks that society can undertake. Rye et al (1999) reported on the success of a professional development workshop, which was sponsored, by the Health Sciences and Technology Academy (HSTA) to provide instruction in an integrated science and math program for financially disadvantaged African American students. The workshop’s focus on human nutrition provided the development of cross-disciplinary science and math concepts. It also lent itself to learning experiences which Hurd (1997 as cited by Rye et al, 1999) advocated such as the “lived curriculum.” The theme of the workshop provided the authentic context for learning science and math as well as developed student understanding within the National Science Education Standards (NSES).
Improvement in science education has to be worked on by many; teachers, science supervisors, curriculum developers, publishers, those who are employed in science related fields, science educators, scientists and engineers across the nation, school administrators, school board members, parents, members of business and industry, legislators and other public officials.

**Integrated Constructivist Approaches**

The trend toward interdisciplinary approaches in teaching and learning has existed for a long time. The concepts of interdisciplinary integration can be found as far back as Plato’s “Politeia,” where the philosopher asserted that the varied areas of knowledge are interrelated according to the deeper meaning of “reality.” Plato explained that they should compromise, a “harmonic unity” that should govern the evolution of a young person’s education (Chrysostomou, 2004).

Centuries later during the late 1890s and early 1900s, John Dewey and Francis Parker who founded the progressive movement established the idea of an integrated curriculum as an essential part of effective pedagogy (Hinde, 2005). The philosophy of constructivism and its theory about learning asserts that every person “constructs” his or her own reality and knowledge through personal and meaningful experiences. They rejected the ideas of teaching skills in a linear sequence, which is viewed as a non-constructivist viewpoint. Eisner (1992) affirmed that during this time the Progressive movement in education supported curricular integration through themes. He claimed that this was done because the advocates of curriculum integration believed that teaching in separate disciplines hindered students from recognizing the relationships between subjects and thus decreased their relevance. Constructivists also believe that learning occurs best in context or in experience, in real life environments, through constructivist
knowledge creation processes (Slepkov, 2008). Prawat (1995) described the non-constuctivist viewpoint as a more traditional, no nonsense approach based on the common sense notion that knowledge can be directly transmitted from teacher to student. Dewey (as cited in Phillips, 1995) responded to this viewpoint:

> In schools, those under instruction are too customarily looked upon as acquiring knowledge as theoretical spectators, minds that appropriate knowledge by direct energy of intellect. The very word pupil has come to mean one who is engaged not in having fruitful experiences, but in absorbing knowledge directly. Something, which is called mind or consciousness, is severed from the physical organs of activity. The former is then thought to be purely intellectual and cognitive, the latter to be an irrelevant physical factor. The intimate union of activity and undergoing it consequences which leads too recognition of meaning is broken...It would be impossible to state adequately the evil results, which have flowed from this dualism of mind and body... (pp. 140-141).

Dewey, (1956) claimed, “The child is the starting point, the center and the end.” (p 93-94). He felt strongly against learning which was passive and almost forced. He further believed that compulsory education was not effective. Dewey reasoned that although it was possible to oblige children to attend school, it was not as possible to oblige them to learn. He deemed it the teacher’s duty to select subjects and activities that would keenly interest the students. These, he believed, would be more likely to result from an interdisciplinry approach (Chrysostomou, 2004). Dewey’s beliefs about education and learning mirror Beane’s (1997) beliefs about teaching and learning.

The constructivist approach complements the teaching of science. Raizen and Michelson, (1994) explained that the optimum time to implement constructivist practices is during the K-12 years. Scientific literacy depends on the child’s early engagement in science; and during their early years, teachers have the opportunity to develop and encourage their student’s innate curiosity about the world (Yager, 2000).

*Benefits of Curriculum Integration*
The process of schooling in America has become increasingly complex within the last thirty years. Two factors, which contribute greatly to the complexities of American education, include diversity and the drive for high standards in schools. According to Harris and Alexander, (1998) an integrated constructivist approach to education would be able to meet the needs of all learners. Old educational approaches based on traditional thinking aimed at specialization and standardization are no longer appropriate. An education system needs to reflect the needs of the learner, be relevant contextually and prepare the learner for a changing society. Straight knowledge and traditional skills are no longer deemed as important as before (Esbin, 2002). New basics are being defined to encompass more than literacy, numeric, some cognitive, affective and social skills (Matters, 2004). It is important that students be taught about the interrelatedness of life, its component parts and their own roles in it (Esbin, 2002). Therefore, today's teachers must integrate core academics, technical skills, career exploration and technology as well as include strategies that focus on values and diversity. They must also determine the most appropriate knowledge to assist students in becoming fully participating members of society (Lyon, 1995). In order to help adolescents make sense out of their life experiences and connect school experiences to their daily lives outside the school, curriculum needs to be integrative (National Middle School Association 1995, as cited by Casey, 2002).

Curriculum integration brings two or more disciplines together for the purpose of making one curriculum which reflects the qualities of all the disciplines and gives maximum benefit to the learner. It is cognitive as well as social and gives meaning to everyday activities and issues. Curriculum integration reflects interaction among persons and an understanding of their way of thinking about themselves and the world in which they live (Delores, 1998).
In addition, Hinde, (2005) stated, integration is a method for teaching and not a goal for learning. He further asserted that when skilled, knowledgeable teachers employ integrated methods, student achievement is equal or greater than that of students who are taught in the traditional separate-subject approach. Student achievement hinges on the teacher’s ability to integrate content across disciplines effectively in meaningful ways. One can then logically surmise that when curriculum integration is employed with much preparation and thought it can be an effective and powerful teaching tool.

Educational systems have attempted to come to terms with education’s need for a wider, integrated knowledge skills base (Bhattacharya & Jorgensen, 2007). One such method is through curriculum integration. It provides a framework for children to apply knowledge from several disciplines and to use this knowledge to solve real life problems at work and at play (James & Adams, 1998). Curriculum integration is not a new concept. Dewey and Kilpatrick supported forms of integration since the beginning of the twentieth century. In recent times, more educational theorists have also been advocating curriculum integration for a number of reasons (Loepp, 1997).

According to Walker (1996) curriculum integrations’ emphasis is interdependence of knowledge and processes. In addition, brain research indicates that the brain encodes and retrieves information better when information is connected to a web of meaning. Much of the grounds for integration are rooted in Beane’s work on curriculum integration (Bhattacharya & Jorgenson, 2007). Curriculum integration, which has solicited numerous names and meanings over the years, was effectively described by Beane (1995), who stated, “Curriculum integration is a way of thinking about what schools are for, about the sources of curriculum and about the uses of knowledge. Curriculum integration begins with the idea that the sources of curriculum
ought to be problems, issues, and concerns posed by life itself.” Similar to Dewey, who was more concerned about the whole instead of unconnected parts, Beane envisioned curriculum integration as centering the curriculum on life itself rather than on the mastery of fragmented information within the boundaries of subject areas. He described curriculum integration as rooted in a view of learning as the continuous integration of new knowledge and experience to deepen and broaden one’s understanding of oneself and the world.

Beane further asserted that the problems and concerns he described were categorized as self or personal concerns, issues, and problems posed by the larger world. Beane’s extension of the concept was that the central focus of curriculum integration is the search for self and social meaning.

Advocates of curriculum integration denote that an integrated curriculum gives rise to the following (Kysilka, 1998):

1. Genuine learning takes place as students are engaged in meaningful, purposeful activity.
2. The most significant activities are those, which are most directly related to the students’ interests and needs.
3. Knowledge in the real world is not applied in bits and pieces but in an interactive fashion.
4. Individuals need to know how to learn and how to think and should not be receptacles for facts.
5. Subject matter is a means, not a goal.
6. Teachers and students need to work co-operatively in the educative process to ensure successful learning.
7. Knowledge is growing exponentially and changing rapidly; it is no longer static and conquerable.
8. Technology is changing access to information, defying lock step, sequential, predetermined steps in the learning process.

In curriculum development in a context where knowledge is growing explosively such as in health and science, curriculum integration can be used flexibly in connecting different areas of knowledge in the curriculum.

Arguments have been made for and against curriculum integration. Some contend that curriculum integration has the potential to allow shallow non-disciplined thinking because of the mixture of methods and concepts involved. Also curriculum integration requires more knowledge and skill, greater care and better mastery of material than studies which center within one discipline (Burton, 2001). Glatthorn and Foshay (1991) reported that those for curriculum integration believe that it increases the motivation of the learner, inclusive learning, and effectiveness of learning as well as efficiency within the classroom. Arguments against curriculum integration state that motivation can be increased by a skillful teacher; the disciplines do deal with important personal and social problems; effectiveness and efficiency are not supported by research; and each discipline has its own structure of inquiry. According to Glatthorn and Foshay (1991), findings from research on integrated curriculum indicate that there is no difference between students studying and integrated curricula and those studying in conventional curricula and the curricula will achieve what it is designed to achieve.

Upon examination of the challenges of interdisciplinary teaching with teachers, some of the difficulties include modeling because few teachers have had an opportunity to experience true interdisciplinary experiences themselves as students. There is also resistance to change. Curriculum integration even at a modest level is a departure from the norm (McComas, 2009).
Critics of curriculum integration present arguments that interdisciplinary teaching destroys the integrity of the disciplines of knowledge (Beane, 1995). Beane countered the argument by questioning what possible integrity could there be for any kind of knowledge apart from how it connects with other forms to help others investigate and understand the problems, concerns, and issues that confront everyone in the real world. Beane further questioned what kind of integrity the disciplines of knowledge have in young people’s minds. Drake (1998) claimed that when subject areas are connected they reflect the real world. When curriculum is set in the context of the human experience, it comes to assume a new relevance. As the students tackle actual problems and issues, higher order thinking skills are needed.

The three chief concerns in curriculum integration include the epistemological, psychological and social issues. The epistemology aspect of curriculum integration takes account of what is considered valid knowledge and how it is required. The commencement of the epistemological view of curriculum integration can be traced from its objection to the traditional academic oriented subject curriculum. From the psychological aspect, the focus on the child’s cognitive development refers to the learning process rather than the content learned. A prominent feature of curriculum integration is its close link with social issues. The tie of curriculum integration with society enables the student to be involved or participate more fully in society. Opportunities for the students to enact the curriculum are provided and thus the meaning of knowledge from an academic discipline is transformed to a social conscious orientation (Chan, 2003). The role of curriculum integration closely linking with social issues is highlighted by Beane (1997) who recalled the social integration function of curriculum integration, which had been a much-neglected area in the curriculum field.
Although there are answers to critics' questions about curriculum integration, it is still natural to ponder the approach in a standards-based accountability-driven educational system. Hartzler (2000 as cited by McClure, 2007) conducted a meta-analysis of 30 studies on integrated curriculum programs and their effects on student achievement. She found that students in integrated programs consistently outperformed students in traditional classes on national standardized tests, on statewide programs, and on program developed assessments.

Over the past 30 years, "learning to learn," has become the only policy common to all countries seeking to transform science education (Organization for Economic Cooperation & Development, 1998). Integrating science and health education concurs with one of the goals in the National Educational Goal Panel, (1991) which affirms that building a lifelong behavior is essential for a productive life in a knowledge intensive era.

Much of the concerns about implementing curriculum integration stems from the profusion of standardized testing in our nation. Although the last decade of the twentieth century experienced an upsurge of interest in curriculum integration, the phenomenon is balanced out by the increasing pressure for accountability and standards based reform (Vars & Beane, 2001). The authors question how curriculum integration can survive when its principles are at such a disparity with many of the teaching and testing methods promoted within the standards based reform movement. Vars (1991) who examined more than eighty normative and comparative studies on the effectiveness of curriculum integration declared that students who were involved in various integrative and interdisciplinary programs performed as well as or better on standardized achievement tests compared to their peers who participated in more traditional separate subject disciplines. Additional instances of curriculum integration also demonstrated positive results.
Kumar and Whitehurst (1997) also discuss the importance of exploring ways of integrating science with other disciplines. They studied the impact of relating science to an important discipline such as physical education. They claimed that as society has become increasingly health conscious and have incorporated Personal Health (grades K-4 and 5-8) and Personal Community Health (grades 9-12) as a part of Content Standards F in the National Science Education Standards. The authors believe that relating science to physical education helps the learner relate to the subjects on a more personal level. As a result, the physical education helps in the meaningful understanding of science concepts as well as aids the student in the understanding of personal health related science concepts.

An experience with an integrated curriculum of science and social studies was also found to be beneficial for the students. Sorel (2003) reported her experiences as a science coordinator in Brooklyn, New York where she collaborated with the science teachers to develop a science curriculum integrated with a social studies unit. Sorel found that when the students experienced an integrated curriculum, the subjects made more sense and became more relevant to them. She asserted that the world is not divided into parts, and humans have been in constant interaction with the world around them. Therefore, when students approach learning from this dual perspective, the subjects make sense and become more relevant. The National Curriculum Project which conducted a 2 year research study on the process and impact of curriculum integration and infusion strategy in four middle schools across the country found student success in several areas. The students felt empowered as learners, took more responsibility for their own learning, believed that learning was more socially relevant and connected with “real life,” felt more respected by teachers and in turn respected teachers more, learned how to handle conflict constructively in class and school environments, emphasized respectful and accepting behavior
toward other students and felt a sense of community within the classroom that enhanced their learning processes (Compton, 2002).

These findings concur with Burton's (2001) conclusions about the goals for all curriculum programs which should lead students to discover connections. These include: learning to ask the correct questions to find connections; valuing independent thinking; finding their own solutions to problems; developing sequential understandings in separate areas of knowledge and skills and establishing thought patterns or mindsets that lead them to look for linkages and connective relationships across all areas of learning. Without opportunities for integration, learners are left on their own to make connections between the content and application (McDonald, 1997). Overall, integrative curricula are highly responsive to the educational and developmental needs of early adolescents and are inclusive of all students (Dowden, 2007). Experiences in purposeful curriculum integration can serve to increase creative teaching, job satisfaction, interactions with peers, increase student interest and active involvement in learning linked within the school environment (Jacobs 1989 as cited in Fisher and McDonald, 2004). The curriculum of the American high school must change if youths are to succeed in an interconnected world. Such change is most critical in urban areas where students face the highest risks of marginalization (Jackson, 2004).

Scholars and researchers from various disciplines have examined and come to support integrated teaching and learning practices (Brewer, 2002). In order to implement curriculum integration effectively, the focus is on the expertise and knowledge of the teacher (Hinde, 2005). The teachers' proficiency impacts the quality of instruction imparted to their students. Much of the expertise and knowledge is often derived from effective professional development. Collopy
(2008) supports the assertion that professional development is a key strategy for improving instructional quality.

Although curriculum integration emphasizes the shift of responsibility from teacher to student, the pivotal role still belongs to the teacher because the teacher is responsible for shaping the curriculum. Lytle (1995) who reviewed 43 studies of interventions performed on children and adolescents found that one of the six main elements required for successful interventions included teacher training.

**Professional Development**

An important concept in curriculum integration is professional development. This is true because teachers are necessarily at the center of reform, for they must carry out the demands of the high standards of the classroom (Garet et al., 2001). Nearly all public school teachers in the United States participate in professional development activities (Parsad et al., 2001). Sparks and Hirsh (1997) also deemed it a necessary tool as they recognized that professional development of school employees and considerable changes in the organizations in which they work are both required if schools are to sufficiently prepare students for life in a world that is becoming increasingly more complex. DuFour (1991) supported this claim with his statement, “It should be self evident that the quality of personnel; is of central importance to a school, and that enabling individuals to improve their effectiveness is the key to any meaningful school improvement effort” (pg. 7).

The importance of professional development has long been recognized for its significance, especially for teachers. Wagoner (1964) asserted that those who staff schools were prominently among those who must increase their levels of competence. Rapid expansion of
knowledge as the content for instruction in addition to technological innovations made dramatic changes in the teaching profession. The new dimensions demanded that those educators continuously add to their current knowledge. Wagoner (1964) also declared that every educational practitioner should be engaged in a program designed for his continuous professional development. If Wagoner’s advice should have been heeded in 1964, then the importance of his advice is multiplied ten fold for the 21st century with its swift growths of technology in which many adults are struggling to keep up with children.

Flash forward 50 years later and the message is still the same. Thomas Friedman’s, (2005) *The World is Flat* supported the idea of constantly upgrading one’s skills. He asserted that educators continue to update their skills to stay abreast of the innovations and technological advances needed to properly educate students. Thus, school districts must provide quality professional development to help educators provide proper instruction.

This is especially true of teachers who have been used to delivering instruction in the traditional of utilizing textbooks and prescribing scope and sequences. Understandably, some may be anxious about attempting to deliver effective instruction while adhering to their states’ standards. In addition, few teachers experienced curriculum integration themselves as students and there are few teacher preparation programs that have offered sufficient training. (Vars, 2001).

One of the most important aspects of professional development is what the teachers learn. Professional development should improve teachers’ knowledge of the subject matter as well as enhance their understanding of student thinking in the targeted subject matter. Teaching Teachers: Professional Development to Improve Student Achievement (2005), a federal program supporting professional development surveyed teachers and found that the focus on content
knowledge and skills was one of the two factors, which had the greatest effect on their knowledge and skills and led to changes in their instructional practices.

Since the degree of teacher implementation in integration programs such as the Get Healthy, Get Smart! program is essential to student learning, teachers should be trained on how to disseminate the program properly and be supported in their endeavors. Teachers are central in efforts to bring about needed change (Lowden, 2003, Garet et al, 2001).

Beane, (1984) the avid advocate of curriculum integration, also recognized the benefits of professional development, especially that which was continuous. He acknowledged professional development as one of the most important characteristics of a progressive school. He also asserted that professional development should not consist of one or two opportunities per year where educators sit passively. He presented the analogy that if people really felt that this was the effective answer to comprehensive professional growth, then the same idea should be applied to children’s education. They should also only need to be in school for 1-2 days at most.

Beane (1984) elected two essential criteria for professional development. First, he affirmed that the activities for the purpose of professional growth should be voluntary whenever possible. He stated that teachers are most likely to improve or change their attitudes and actions when they identify the need to do so. If they feel coerced into specific activities, they may react in resentful, overly aggressive or submissive ways, which will then defeat the purpose of change and improvement. Second, professional development should take place in a workshop setting. The activities should be focused on solving real world problems, everyone should have a say in making decisions and a wide variety of activities should be used. They should make a significant contribution to some aspect of school life.
Teachers are such an important part of reform, that the Science Teaching Standards published by the NRC in 1996 were stated first. The standards declared, “What students learn is greatly influenced by how they are taught.” They asserted that the decisions about contents and activities which teachers make, as well as their interactions with students, the selection of assessments, the habits of mind of that teacher demonstrate and nurture among their students and the attitudes portrayed purposefully or subconsciously all affect the knowledge, understanding, abilities and attitudes that students develop.

A study conducted by Waldrip (2001) examined integrated science and literacy as well as advocated the constructivism approach based on the teacher’s perceptions of integration on their teaching and students. They asserted that teachers’ perceptions of integration affected their teaching and student learning. The teachers who were all experienced were interviewed to describe their perceptions of their integration of science learning into their everyday (literacy) teaching. Those teachers who viewed science as a separate unit did not establish links between science and literacy despite how obvious the links were. This approach tended to produce teachers who had a lack of contextual relevance. In contrast, in those teachers’ classes where integration was used more inclusively with other subject areas, there were indications that students understood the concepts taught on a deeper level. This research raised questions about teachers’ perceptions about integration and how their perceptions were implemented in practice.

Although there are many advocates, for professional development, there are also those who tout the ineffectiveness of professional development. Tienken and Achilles (2007) examined the effects of professional development and analyzed the National Assessment of Education Progress (NAEP) results from a national sample of public school teachers and the achievement of their students. The data revealed that teacher reported time spent in PD workshops had no
significant relationship to 4th grade students’ math scores. In addition, more time spent in PD was actually shown to be negatively related to achievement. The NAEP data also showed that students of teachers who had participated in various PD activities did not outperform students of teachers who did not participate. The authors reinforced their claims of the ineffectiveness of PD programs by citing seven studies, which found that PD had no evidence of student gains.

Although some people believe that professional development is not effective in showing measurable gains in student achievement, there are just as many who, although they recognize some of the shortcomings, believe otherwise. Suppovitz and Turner (2000) defended that although professional development may not have reached its full potential, it is the “best bet for changing teaching practices” (p. 964). They also cited Hawley and Rosenholtz (1984) who concluded, “In virtually every instance in which researchers have examined the factors that account for student performance, teachers prove to have a greater impact than the program. This is true for average students and exceptional students, for normal students, for normal classrooms and special classrooms” (p.3). In addition, there is more than one type of professional development. It is not clear if the NAEP derived their data from teachers who participated in “reform oriented” or “traditional” workshops. (Loucks-Horsely et al., 1998 as cited in Penuel et al., 2007).

Although the process of professional development is not perfect, it is essential because as Boyer (1984) stated,

“The only way we are going to get from where we are to where we want to be is through staff development. When you talk about school improvement, you’re only talking about people improvement. That’s the only way to improve schools unless you mean painting the buildings and fixing the floors. But that’s not the school, the shell. The school is people, so when we talk about excellence or improvement or progress, we’re really talking about the people who make up the building” pg 9

Many scholars agree that many traditional workshops fall short of allowing for in-depth engagement, providing mentors or coaches, participating in committee, groups or internships,
exploring new concepts and teaching strategies in depth or leading with classroom teachers themselves (Penuel et al., 2007). Yet teacher training cannot be eliminated because, “In societies of classrooms are the future societies of adults, by design or default, teachers cannot help but be involved in perpetrating these generations of the future. Children spend too many hours in their charge for them to escape this obligation” (Guskey & Huberman, 1995 p.14). Therefore, teachers need regular scheduled blocks of time for working and learning together (Loucks-Horsley et al, 1996).

Guskey (2000) shed further light on the reasons as to why past efforts to identify the elements of professional development have not produced more definitive answers. He believed that there were too many varied criteria of effectiveness. First, there has not been any consensus on the most important criteria used to determine the effectiveness of professional development. Some studies measure the participants’ reactions to the experience, while others focus on their attitude exchange or commitment to an innovation. Student learning is rarely the main criteria for determining the effectiveness of professional development. Secondly, researchers usually discredit much important information that their studies contain because they are focused on the components or processes, which are the same across programs and contexts. These “main effects” are those that meet specific delineated selection criteria, which have been standardized and averaged across various programs. Guskey’s third reason in the hindering of identifying the elements of effective professional development was the focus on issues of quantity instead of quality. Developing indicators of quality is difficult, time consuming, and thus often replaced by monitoring of frequency. The difficulties inherent in developing indicators of quality as well as the time consuming tasks of training, data collection, and analysis make for a task that is usually neglected.
While it may be challenging to pinpoint how precisely professional development increased student performance, there are three characteristics of professional development reported that are likely contributors to increased student performance. They include the professional development focusing on the subject matter and subject specific pedagogy related to topics teachers are expected to teach. In addition, teachers should have continuous support and contact time offered to them from their professional development. This practice is in sharp contrast to traditional professional development activities, which typically last a school day with little or no follow up afterwards. Also, professional development considers the context of the teachers' duties, which include curriculum materials, assessments, district and state standards, and school improvement goals (Collopy, 2008).

Quality professional development has the power to increase educators' knowledge of academic content and teaching skills, while changing what educators believe about student learning and how they interact with students. Powerful professional development can transform schools into places where all adults and students are deeply engaged in learning and making meaning of their lives (Christie, 2009). While professional development impacts the teachers who engage in the various workshops, the ultimate result is geared toward students and student achievement.
Chapter 3

RESEARCH METHODOLOGY

Introduction

This chapter describes the methodology and design of the study. The first purpose of this study was to examine the relationship between the training teachers received at their professional development and their implementation of the Get Healthy, Get Smart! integrated curriculum. This second purpose of this study sought to determine how the professional development activities measured in association with increased teacher knowledge and changes to their teaching practices. The third purpose was to ascertain the teachers’ perceptions regarding the most successful aspects of the professional development workshops they attended. The fourth purpose was to determine the extent of the impact that the integrated curriculum had on student attitudes and behaviors regarding obesity and HIV. The students’ health and nutrition knowledge and practices were measured before and after they were taught from the integrated modules by the targeted teachers.
Framing this study were the following research questions:

1. What is the relationship between the professional development the teachers received and teacher implementation of the integrated curriculum?

2. To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?

3. What are teachers’ perceptions regarding the most successful aspects of the professional development program?

4. To what extent did the professional development of an integrated curriculum have an impact on students’ health attitudes and behaviors?

Thomas Guskey’s (2000) model for evaluating professional development, “Five Critical Levels of Professional Development Evaluation,” was used to direct the research questions for this study.

<table>
<thead>
<tr>
<th>Evaluation Level</th>
<th>What Questions are Addressed</th>
<th>How Will Information be Gathered</th>
<th>What is Measured or Assessed</th>
<th>How Will Information be Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants’ reactions</td>
<td>-Did they like it? -Was their time well spent? -Did the material make sense? -Will it be useful? -Was the leader</td>
<td>-Questionnaires administered at the end of the session -Focus groups -Interviews -Personal learning logs</td>
<td>Initial satisfaction with the experience</td>
<td>To improve program design and delivery</td>
</tr>
<tr>
<td>Participants' learning</td>
<td>Did participants acquire the intended knowledge and skills?</td>
<td>-Paper &amp; pencil instruments -Simulations and demonstrations Participant reflections (oral and/or written) -Participant portfolios -Case study analyses</td>
<td>New knowledge and skills of participants</td>
<td>To improve program content, format, and organization</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Organization support and change</td>
<td>What was the impact on the organization? -Did it affect organizational climate and procedures? Was implementation advocated, facilitated, and supported? Was the support public and overt? Were problems addressed quickly and efficiently? Were sufficient resources made available? Were successes recognized and shared?</td>
<td>-District and school records -Minutes from follow-up meetings -Questionnaires -Focus Groups -Structures interviews with participants and school or district administrators—Participant portfolios</td>
<td>The organization’s advocacy, support, accommodation, facilitation, and recognition</td>
<td>-To document and improve organizational support -To inform future change efforts</td>
</tr>
<tr>
<td>Participants' use of new knowledge and skills</td>
<td>-Did participants effectively apply the new knowledge and skills?</td>
<td>-Questionnaires -Structured interviews with participants and their supervisors -Participant reflections (oral and/or written) -Participant portfolios -Direct observation</td>
<td>-Degree and quality of implementation</td>
<td>-To document and improve the implementation of program content</td>
</tr>
<tr>
<td>Student learning outcomes</td>
<td>Video- or audiotapes</td>
<td>-Student learning outcomes: Cognitive (performance and achievement)</td>
<td>Affective (attitudes and dispositions)</td>
<td>Psychomotor (skills and behaviors)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------</td>
<td>-------------------------------------------------</td>
<td>--------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>-What was the impact on students?</td>
<td>-Student records -School recorded -questionnaires -Structures interviews with students, parents, teachers, and/or administrators -Participant portfolios</td>
<td>-Student learning outcomes: Cognitive (performance and achievement)</td>
<td>Affective (attitudes and dispositions)</td>
<td>Psychomotor (skills and behaviors)</td>
</tr>
<tr>
<td>-Did it influence students' physical or emotional well being?</td>
<td>-Are students more confident as learners?</td>
<td>-Is student attendance improving?</td>
<td>-Are dropouts increasing?</td>
<td>-Student learning outcomes: Cognitive (performance and achievement)</td>
</tr>
</tbody>
</table>

**Context for the Study**

The study focused on the professional development of the science teachers from eleven middle schools in Central Harlem. The selected middle schools were the recipients of the Get Healthy, Get Smart! program funded by the Elton John Foundation and supported by partners who represent the Harlem community, the New York City education system, and health industry professionals.

The selected teachers were trained throughout the school year by facilitators from the National Urban Technology Center at Bank Street College in order to implement integrated modules in the Get Healthy, Get Smart! program. Training was provided for the teachers on how to administer the curriculum which combined National Urban Technology Center's Youth Leadership Academy (YLA) web based prospectus with the New York City's Department of Education HIV/AIDS curriculum to 5th, 6th, 7th and 8th grade science students in 11 Central Harlem Middle Schools.
This research study used a mixed methodology of quantitative and qualitative research methods. The quantitative portion of the study elicited responses from 20 teachers about their experiences in the GHGS! professional development workshops and implementation of the integrated curriculum in their classroom. The quantitative section of this study also compared the middle school students' responses before and after being taught from the integrated curriculum.

The qualitative section of this study utilized the interview format of the 4 facilitators from Bank Street College who presented the workshops to the teachers and observed their implementation of the GHGS! integrated curriculum in their classrooms.

Subjects and Subject Selection Description

The students selected for this study consisted of the 378 6th, 7th and 8th grade students enrolled in the 32 public middle schools in central Harlem. The students were given pre and post test questionnaires. Of those students 147 completed both tests. Those 147 students’ results were used for this study. Forty six were eleven years old or younger, 8 were 12 years old, 32 were 13 years old and 38 were 14 years or older. Two students did not answer the age question. There were 66 females and 88 males. One student did not answer the gender question. The students’
races consisted of 88 Black or African American, 7 Native Hawaiians or Pacific Islander, 4 American Indian or Alaskan Native, 2 Asians, 3 Black and American Indian or Alaskan Natives, 2 Black and White, 2 Black, Native Hawaiian or other Pacific Islander and 1 White, Black and American Indian or Alaskan Native. Thirty-eight students did not answer the race question.

The twenty-one teachers selected for this study were trained to implement the Bank Street College National Urban Technology Center’s (YLA) web based curriculum with the New York City’s Department of Education HIV/AIDS curriculum with their students. They consisted of 4 males and 16 females. There were 7 African Americans, 5 Caucasians, 2 Hispanic, 3 Asian and 5 recorded as other. Of the majority of teachers surveyed, 14 had been teaching at their current school for 1-5 years. Three taught at their current schools for 6-10 years, 1 spent 11-16 years at the current school and 1 had been at the current school for at least sixteen years. The teachers’ years of experience also varied. One half of the teachers surveyed had taught for 1-5 years. Three taught for 6-10 years and 4 had been teaching for 11-15 years. One of the twenty teachers did not enter any demographic information.

The four facilitators who were responsible for administering and monitoring the professional development and the teachers’ implementation of the Get Healthy, Get Smart! program were also chosen to elicit their observations and feedback.

The location of the middle schools in central Harlem was the criteria used for determining the subjects of the study.
<table>
<thead>
<tr>
<th>Name of Instrument</th>
<th>Questions’ Numbers and Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitators’ Interview Surveys</td>
<td>10 open ended questions about the professional development workshops presented</td>
</tr>
<tr>
<td></td>
<td>6 open ended questions regarding teacher and student observations in the classrooms</td>
</tr>
<tr>
<td>Teachers’ Surveys</td>
<td>5 demographic questions</td>
</tr>
<tr>
<td></td>
<td>39 PD observation and experience questions using the Likert scale format</td>
</tr>
<tr>
<td></td>
<td>2 multiple choice questions about the modules and their impact on students</td>
</tr>
<tr>
<td></td>
<td>4 open ended questions</td>
</tr>
<tr>
<td>Students’ Pre and Post test Questionnaires</td>
<td>4 demographic questions</td>
</tr>
<tr>
<td></td>
<td>6 questions about peer pressure using Likert format</td>
</tr>
<tr>
<td></td>
<td>11 questions about eating habits using Likert format</td>
</tr>
<tr>
<td></td>
<td>11 questions about the future using Likert format</td>
</tr>
</tbody>
</table>
The instruments that were used to gather the data necessary for this study included survey-questionnaires: i) teacher professional development assessment survey ii) facilitators’ interviews and iii) students’ baseline and post teaching questionnaires.

**Teachers’ Questionnaires**

The teacher assessment survey consisted of forty-five questions about their experiences with the professional development they received and how it applied to their classrooms. The first 5 questions requested demographic information about gender, ethnicity, grades taught, years of teaching experience and amount of time at current school. The second set of 39 questions was structured using the Likert format with a 4 point response scale. A Likert scale is a rating scale that requires the subject to indicate his or her degree of agreement or disagreement to a statement. In this questionnaire, the teachers were given four and three response choices. These options served as the quantification of their agreement or disagreement on each question item. The assigned point values were Strongly Agree = 1, Agree = 2, Disagree = 3, and Strongly Disagree = 4. Additional point values of 1, 2, 3, and 4 were assigned for responses such as Not at All, Very Little, Some and A Lot, respectively. The same point values of 1, 2, 3, and 4 were
used for the responses of Nearly All or All, Most, Some, and None, respectively. Point values of 1, 2, and 3 were used for the responses; Not at all Serious, Somewhat Serious, and Very Serious, respectively. The teachers were asked questions in categories relating to the following topics: their evaluations of the professional development experience, the knowledge they gleaned from the project, the support they received from the school and professional development staff, their levels of confidence as a result of their training, assessment of student outcomes, and comparisons of changes before and after the Get Healthy, Get Smart! project. Teachers were asked to rate their experiences with questions such as: “Before GHGS! how serious a problem was obesity in this school?” “My professional development experience in GHGS! was time well spent,” “GHGS! has improved my knowledge about curriculum integration,” and “How confident are you that you can effectively apply the new knowledge and skills in your classroom?” The third set of questions consisted of two more multiple choice questions regarding the modules they taught and its impact on the students. The final set of 4 questions asked for open ended responses regarding the teachers' suggestions for improving the project, their general feelings about GHGS!, supports for the following year and challenges faced when integrating the curriculum. (Appendix A)

**Facilitators' Interviews**

The first interview consisted of 10 open ended questions designed to elicit the facilitators' responses on the various aspects of the professional development they presented. Examples of the questions asked included, “What were the program’s goals for teachers?” “What strategies did you use to deepen the teachers’ knowledge of the concepts in the health modules?” and “How did you determine the extent to which you achieved your desired outcomes?” A second interview consisting of 6 open ended questions was given to the two
facilitators who observed teacher implementation and student engagement when they visited the classrooms. Examples of the questions included, "What improvements in implementing the curriculum have you noticed in the classrooms?" "What additional support do you think the teachers need when integrating the curriculum?" and "What concepts taught in the professional development workshops were evident in the classrooms observed?" (Appendix B).

**Students' Questionnaires**

The students who were taught by the targeted teachers were administered baseline and post treatment surveys. Before the teachers were allotted the professional development, the students were given the baseline questionnaires consisting of 76 questions. The first four questions asked for information about demographics. Following demographics were 6 questions inquiring about peer pressure, and eleven which asked about eating habits. Ten questions regarding lifestyles were asked. Sixteen questions asked for information about family life, and beliefs about the future. These questions were all scored using Likert Scale responses. Eighteen questions were also asked about HIV and nutrition knowledge using True/False and "I don't know," responses. Examples of the questionnaire’s items that students were asked to respond to included; "I think it’s more important to be who I am than to fit in with the crowd," "What someone eats can make a big difference in their chance of getting a disease, like diabetes or heart disease," "Calories are the body's source of energy," and "How often do you drink alcohol, like beer, wine or liquor?" After being taught from the GHGS! modules, each student responded to an identical survey in order to measure his/her growth (Appendix C).

**Data Collection**
The teacher surveys were administered to the teachers who participated in the professional development workshops for the Get Healthy, Get Smart! program. The paper surveys were administered and collected by the primary researchers from Seton Hall University and the facilitators from Urban Tech at the conclusion of their last workshop at the end of the school year. Teachers who were not present at the last workshop were contacted via email to complete their surveys. This survey gave teachers the opportunity to reflect on how the professional development they participated in impacted their teaching and their students’ achievement.

The facilitators’ paper surveys were issued to the 2 facilitators who presented the professional development workshops to the teachers. Phone surveys were issued to the 2 additional facilitators who observed the students and teachers in their classrooms as they participated in the GHGS! integrated curriculum. The phone surveys were then transcribed onto paper. The surveys allowed the facilitators to give feedback about their observations from the teachers and classroom implementation of the concepts learned from the professional development workshops.

The students’ baseline and post test questionnaires were issued to the students whose teachers used the integrated curriculum with them. The paper questionnaires were issued by the students’ teachers before and after they had been taught from the modules. (Appendix D)
Data Analysis

Table 4: Disclosing the data and analysis method to answer the research questions

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Source</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the relationship between professional development and implementation of the integrated curriculum?</td>
<td>Facilitators’ Interviews</td>
<td>Content Analysis</td>
</tr>
<tr>
<td>To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?</td>
<td>Teachers’ Surveys</td>
<td>Descriptive statistics Pearson Correlation</td>
</tr>
<tr>
<td>What are teachers’ perceptions regarding the most successful aspects of the professional development program?</td>
<td>Teachers’ Surveys</td>
<td>Descriptive statistics Pearson Correlation</td>
</tr>
<tr>
<td>To what extent did the professional development of an integrated curriculum have an impact on students’ health attitudes and behaviors?</td>
<td>Students’ baseline and post test questionnaires</td>
<td>Paired Sample $t$ tests</td>
</tr>
</tbody>
</table>
The data obtained in this study were qualitative and quantitative. The quantitative data consisted of the teachers’ responses to the professional development workshops they attended as well as their observations of their students and implementation of the GHGS! program. The data obtained from the teachers’ surveys were analyzed using basic descriptive statistics which were depicted in the frequency tables. One sample $t$ tests were used and the Pearson Correlation was calculated to determine the significance of the relationships between the variables in categories of responses answered by the teachers. The social science standard of .05 was used to determine significance. The quantitative data also consisted of the students’ baseline and post-test questionnaires responses. Paired sample $t$ tests were used to determine the differences in improvement from each section of the questionnaire before and after being taught from the GHGS! modules. Statistical analysis was performed for the quantitative data using the SPSS (16.0) software.

The qualitative data consisted of the responses in the facilitators’ questionnaires. The data obtained from the facilitators’ surveys were analyzed using content analysis to look for emerging themes and patterns in the responses.
Chapter IV
FINDINGS AND ANALYSIS

Introduction

The purpose of this study was to examine the effectiveness of a curriculum integrated project, Get Healthy, Get Smart! to address adolescent health issues in Harlem middle schools. The study also examined targeted teachers’ attitudes and perceptions of the professional development they received and their use of the concepts and materials obtained to teach the Get Healthy, Get Smart! integrated curriculum. Students’ behaviors and knowledge based upon the curriculum were measured and compared to the information they had prior to exposure to the program. Various measures including teacher surveys, facilitators’ surveys and students’ baseline and post treatment questionnaires were used to determine the impact that the professional development had on the teachers and students involved. Descriptive and inferential statistics were used to analyze the results.

Within the past 30 years, the number of overweight adolescents nationwide has more than tripled. Being overweight can lead to serious health problems such as diabetes, heart disease,
cancer, high blood pressure and high cholesterol (Obesity in East and Central Harlem: A Look Across Generations, 2007). Also, overweight children are more likely to become overweight adults. Although the number of overweight children is high in America, the percentages of overweight adolescents are even higher in areas such as Central Harlem (Noyes et al, 2008). Obesity in East and Central Harlem: A Look Across Generations, (2007) reported that about one in seven public high school students is obese and nearly one third is overweight or obese.

Not only are adolescents becoming increasingly overweight, their reproductive health is also at risk. In the United States about half of new STD infections occur among those ages 13-24 years old (Tolou-Shams et al., 2007). Sexual health among teens in Central Harlem is also in jeopardy. Teens in areas such as East and Central Harlem, Bedford-Stuyvesant and Bushwick, and the South Bronx were reported to be more sexually active than teens in the rest of New York City (Noyes et al., 2008).

Given the current state of adolescents’ health, especially in Harlem, NY it is essential that schools play a role in educating students on the benefits of proper nutrition, exercise and prevention of STDs. Schools are optimal places for promoting physical and nutritional health because over 90% of children are enrolled (Baranowski et al., 2002). The Get Healthy, Get Smart! program provided a curriculum integration model and activities to facilitate the teaching of the new integrated health curriculum.

The participating teachers were trained by members of Bank Street College on how to deliver the curriculum which combined National Urban Technology Center’s Youth Leadership Academy (YLA) web based curriculum with the New York City’s Department of Education HIV/AIDS curriculum to 5th, 6th, 7th and 8th grade science students in 32 Harlem Middle Schools. The curriculum’s activities focused on teaching adolescents how to resist negative peer pressure.
and choose companions who “share your beliefs, values, and interests” Lessons included drug-related HIV transmission. Students are told to stay away from alcohol and other drugs, and never to share needles or other sharp objects that can transmit blood from one person to another. Sexual transmission of HIV is introduced, and students are urged to abstain from sexual contact. Abstinence from sexual intercourse is emphasized as the only 100% effective way to prevent infection. Students are advised on how to cope with pressure not only from peers, but also from older adolescents who may attempt to coerce them into risky behaviors. In addition, adolescents learn to avoid alcohol and other drugs, which may impair their judgment and put them at increased risk for HIV/AIDS infection. They are strongly encouraged to abstain from sexual intercourse. Some lessons also address methods of prevention, including the correct and consistent use of latex condoms, which can greatly reduce the risk of HIV/STI infection among people who are sexually active. Lessons also address HIV testing and explore how HIV/AIDS has affected our society. These lessons coincide well with YLA’s web based curriculum.

The targeted teachers were shown how to integrate approximately 3000 minutes of the new integrated curriculum, which would take place over the course of 30 weeks. The Bank Street College staff trained the selected teachers from each middle school. When skilled, knowledgeable teachers employ integrated methods, student achievement is equal or greater than that of students who are taught in the traditional separate-subject approach. Student achievement hinges on the teacher’s ability to integrate content across disciplines effectively in meaningful ways school to integrate the YLA curriculum with their current science curriculum (Hinde 2005).

The teachers from 11 middle schools in Harlem, New York were allotted twelve hours of professional development in addition to 15 hours of personal coaching, mentoring and technological assistance to reinforce the teaching of the modules learned in the professional
development workshops. Since the teachers were responsible for executing never used before health modules in conjunction with their state curricula, it was imperative that they received and utilized the proper training to effectively implement the program. The students selected for this study were comprised of 6th, 7th, and 8th grade students enrolled in 11 public middle schools in Harlem. The location of the middle schools in Harlem was the criteria used for determining the subjects of the study.

Thomas Guskey’s Five Critical Levels of Professional Development provided the guiding theoretical framework for the research questions. The research questions guiding this study are:

1. What is the relationship between the professional development teachers received and teacher implementation of the integrated curriculum?

2. To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?

3. What are teachers’ perceptions regarding the most successful aspects of the professional development program?

4. To what extent did the professional development of an integrated curriculum have an impact on students’ health attitudes and behaviors?

Accordingly, this chapter presents the findings of this study. The results from the teachers’ evaluations of their professional development workshops along with the facilitators’
questionnaires about experiences teaching and implementing the Get Healthy, Get Smart! program are presented and discussed. The results of the middle school students' pre and post test questionnaires are also presented and compared.

The procedures for conducting this study and answering the research questions were as follows: Surveys eliciting information about their workshop experiences were given out to each of the twenty two teachers who took part in the Get Healthy, Get Smart! professional development program at its commencement. Of the twenty one teachers who participated in the professional development evaluation, twenty of the teachers completed and returned their questionnaires. They consisted of 4 males (20%) and 16 females (80%). There were 7 (33%) African Americans, 5 (22%) Caucasians, 2 (6%) Hispanic, 3 (11%) Asian and 5 (28%) recorded as other. The majority of teachers surveyed, 14 (70%) had been teaching at their current school for 1-5 years, three (15%) taught at their current schools for 6-10 years, 1 (5%) spent 11-16 years at his/her current school and 1 (5%) had been at his/her current school for at least sixteen years. The teachers' years of experience also varied. Approximately one half, 12 (50%) of the teachers surveyed had taught for 1-5 years. Three, (15%) taught for 6-10 years and 4 had been teaching for 11-15 years. One of the twenty teachers did not enter any demographic information.

In addition to the teachers' surveys, data were collected via an open ended list of questions documenting the experiences of the facilitators at Bank Street College who provided instruction and support for the teachers. The students who were taught the modules were asked questions about their lifestyles and health knowledge before their teachers began implementing the integrated curriculum. After two of the modules had been taught, the same students were given an identical questionnaire to measure any growth or progress that had occurred. The results from these tests will also be presented and analyzed.
It is essential to examine the teachers’ responses because the most important aspect of professional development is what the teachers learn. Professional development should improve teachers’ knowledge of the subject matter as well as enhance their understanding of student thinking in the targeted subject matter. The way in which a teacher implements the program itself is also important because studies have shown that program effectiveness is significantly related to quality of teacher implementation (Resnicow et al, 1992). Since the degree of teacher implementation in integration programs such as the Get Healthy, Get Smart! was essential, teachers had to be trained on how to disseminate the program properly.

Facilitators’ Observations

Research Questions:

What is the relationship between the professional development teachers received and implementation of the integrated curriculum?

To answer this question, the researcher interviewed the two facilitators from Bank Street College who were responsible for teaching and transmitting the information from the modules to teachers. The questions were constructed using current literature for support. For example, the facilitators were asked, “What were the program’s goals for teachers?” and What strategies were used to deepen the teachers’ knowledge of the concepts in the health modules?”

The data were analyzed from the facilitators’ responses about the professional development they delivered to the teachers. Each of the questions on the facilitators’ interview protocol focused on addressing the relationships between the professional development they
delivered at Bank Street College and the teachers' implementation of the program in their classrooms. The facilitators are referred to as Facilitator A and Facilitator B.

Table 5 summarizes Facilitator A's experiences training the teachers to implement the integrated curriculum. The facilitators were asked to respond to questions about their experiences in the workshops. These questions were based on principles derived from Guskey's (1998) research on professional development and Darling-Hammond's, (1997) characteristics of high quality professional development. Guskey maintained making sure the professional development goals were clear. However, in regard to the training received, Guskey also posited that analyzing the content and indentifying the critical elements of the context where change should be implemented is important. Hammond (1997) on the other hand suggested that sustaining the energy of the workshops is an important trait to study because teachers like other learners learn in cycles by actively engaging in situations that provoke cognitive dissonance, sharing and discussing new ideas and applying knowledge. As far as implementation was concerned, Guskey (1998) recommended gathering and analyzing evidence on the participant's use of new knowledge and skills. He measured desired outcomes by gathering and analyzing evidence on the participants' learning as well as the student learning outcomes.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Facilitator A's Experiences Teaching the Modules in the Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Reported Themes</td>
</tr>
<tr>
<td>Goals</td>
<td>exposure</td>
</tr>
<tr>
<td></td>
<td>core concepts</td>
</tr>
<tr>
<td></td>
<td>discover strategies</td>
</tr>
<tr>
<td>Training</td>
<td>small group conversations</td>
</tr>
<tr>
<td></td>
<td>sharing successes &amp; challenges</td>
</tr>
<tr>
<td></td>
<td>sharing strategies</td>
</tr>
<tr>
<td>Overcoming Resistance</td>
<td>discuss strategies to allay fears</td>
</tr>
</tbody>
</table>
Maintaining Momentum | explore curriculum using technology
Sync | whole and small group interactions planning points modules used for discussion & talking points
Implementation | realigning curriculum in-depth coverage of subject matter
Measuring Desired Outcomes | surveys feedback forms follow-up emails

**Table 6 Facilitator B’s experiences teaching the modules**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Reported Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>foster understanding of how to implement and integrate curriculum and resources</td>
</tr>
<tr>
<td>Strategies/Concepts</td>
<td>utilized workshop model</td>
</tr>
<tr>
<td></td>
<td>infusion of Bank Street model</td>
</tr>
<tr>
<td></td>
<td>hands on experiences</td>
</tr>
<tr>
<td></td>
<td>participant driven engagement</td>
</tr>
<tr>
<td>Training</td>
<td>group activities</td>
</tr>
<tr>
<td></td>
<td>process activities</td>
</tr>
<tr>
<td>Overcoming Resistance</td>
<td>discussions held around fears &amp; challenges</td>
</tr>
<tr>
<td></td>
<td>provided worthy resources and follow up</td>
</tr>
<tr>
<td>Maintaining Momentum</td>
<td>stuck to an evolving curriculum</td>
</tr>
<tr>
<td></td>
<td>time keepers</td>
</tr>
<tr>
<td></td>
<td>task based activities</td>
</tr>
<tr>
<td>Sync</td>
<td>reviews</td>
</tr>
<tr>
<td></td>
<td>careful planning</td>
</tr>
<tr>
<td>Implementation</td>
<td>varying teacher backgrounds</td>
</tr>
<tr>
<td>Measuring Desired Outcomes</td>
<td>culminating activities</td>
</tr>
<tr>
<td></td>
<td>dialogue</td>
</tr>
<tr>
<td></td>
<td>observations</td>
</tr>
</tbody>
</table>
Description of the Professional Development Experience

The purpose of this section of the chapter is to provide an overview of the professional development experiences in terms of goals and objectives, delivery strategies and teacher engagement and participation during the workshops. Twenty one teachers from the selected 11 middle schools in central Harlem participated in approximately 3000 minutes of training over a course of 30 weeks at Bank Street College. The two facilitators were first asked to define the program’s goals for the teachers. Both facilitators responded that they wanted to increase teacher knowledge of the modules and resources used in the workshops as well as aid in integration of the concepts taught. Their goals were “to help them gain a better understanding of how to implement and integrate the Youth Leadership curriculum and resources,” as well as “to expose them to the Get Healthy, Get Smart! modules and offer them various ways to teach the core concepts within each module.” The facilitator’s goals supports current literature which affirms that professional development should improve teachers’ knowledge of the subject matter that they are teaching and it should enhance their understanding of student thinking in the subject matter (Resnick, 2005). Both facilitators believed it was important to increase the teachers’ knowledge of the materials used, which would in turn be implemented in the classroom. The facilitators’ goals for the professional development aligned with the Get Healthy, Get Smart! objectives which included integration of the YLA modules for leadership training and HIV and AIDS awareness and prevention into the NYCDOE core curriculum as well as group workshops, co-teaching and mentoring of teachers to support and enhance instruction in the classroom (Walker & Finkelstein, 2008).
The strategies that were used to deepen the teachers' knowledge of the concepts in the modules concentrated on a hands-on approach. It was explained, "We used the workshop model and infused the Bank Street model of hands-on participant-driven engagement" (Facilitator A, Int. 1).

The hands-on aspect of the workshops allowed the teachers to practice what they had learned during training so they could apply it in their classrooms. Effective professional development provides teachers with ways to directly apply what they learn to their teaching (Resnick, 2005).

We modeled intro activities, specific aspects of the lesson and discussed where these lessons would fit in within their present teaching units." In addition, "It was essential that the teachers place themselves in the same type of settings that the students would later participate in. In this manner, they would be able to better relate to their students. (Facilitator B, Int. 1).

Having the teachers participate in similar activities their students would experience was effective because teachers who did so in a previous study found that the teachers were more likely to change their instructional practices and gain greater subject knowledge and improved teaching skills when their professional development linked directly to their daily experience and aligned with standards and assessment (Garet et al., 2001). Close alignment of the professional development and classroom conditions is key to improving student achievement (Resnick, 2005).

The professional development training was also structured to encourage and increase communication and collaboration among teachers to ensure sustained attention to critical topics. The facilitators "placed those [teachers] in group activities with process questions around challenges, strategies and next steps" (Facilitator A, Int. 1).

Also, "Each workshop session was spent in small group conversations, so the teachers could process success, challenges and share strategies (Facilitator A, Int. 1).
Sharing ones views offered the teachers the opportunity gain new perspectives and insights. Teachers learning in a team build a support system for implementation and are motivated to implement what they are earning and to work through problems associated with implementation. Teams of learners have the capacity to spread learning more broadly and in a more systemic way (Collaborative professional learning in school: A toolkit for New Jersey educators, 2009).

There were also discussions held during the workshops between the facilitators and teachers regarding reasons underlying resistance to implementation. The discussions addressed teacher fears, perceived challenges and resource sufficiency. “We held discussions around fears and challenges and provided worthy resources for follow up” (Facilitator A, Int. 1) Also, “We discussed their reasons for their resistance and tried to help them with resources to make them more comfortable. (Facilitator B, Int.1)”

Keeping up the momentum and preventing stagnancy can become an issue in any professional development experience. The facilitators employed a variety of strategies to rein in digressions during the workshops that may have occurred. These methods included “Stick[ing] to an evolving curriculum with timekeepers and task-based activities,” stated Facilitator A. In addition,

The workshops were structured to introduce the module, share resources and give teachers an opportunity to actually explore the curriculum using the computer. The hours were structured with various activities of engagement through whole group and small group interactions (Facilitator A, Int 1).

Equally important to keeping up the momentum was ensuring that the participants and curriculum were in sync. It was evident that both facilitators planned and prepared in advance and retrospectively to ensure that the PD participants were aligning their teachings with the newly integrated curriculum.
We reviewed planned carefully and had conversations with the program’s stakeholders when visiting schools, we used the modules for planning and talking points. This helped the teachers understand aspects of the curriculum, and [we] modeled how to use the curriculum with the students. (Facilitator B. Int.1).

The teachers’ experiences reflected Guskey’s levels of evaluations which measured the participants’ reactions and their learning in their professional development environment.

Numerous measures were employed by the facilitators to determine the extent to which they achieved their desired outcomes for the Get Healthy, Get Smart! professional development program. They determined the desired outcomes through culminating activities, assessments, and dialogue and teacher observations. For example, the teachers created PowerPoint presentations depicting their students’ experiences and growth with the modules. Some teachers also created collages of their students’ essays and drawings pertaining to healthy habits. The facilitators visited the teachers’ classrooms periodically to observe the students’ reactions and interactions with the GHGS! modules. The teachers were also given surveys and feedback forms along with follow-up emails that were sent to elicit their feedback about the effectiveness of the PD programs. The facilitators used the feedback they received from the teachers to modify and adjust the content and instruction of the workshops.

The degree and how well the teachers used the content of the Get Healthy, Get Smart! to achieve its goals were assessed in a variety of ways including; site visits, emails, observations, conversations as well as student success.

I think many of the teachers are doing well within the context of their school cultures, regardless of support or lack thereof by their administrators. Many of the teachers are not sure of how to realign their curriculum and should spend some additional in-depth time of the subject matter, although we have worked with them. Many of the first teachers were struggling to manage their classrooms but were willing to present the material learned from the workshops to their students. (Facilitator B, Int.1).

Many teachers needed help in adjusting their teachings to the new integrated curriculum.

Although the professional development workshops presented the content manner to the teachers,
they also needed to spend additional time studying or relearning the content matter. The first year teachers were praised by the facilitators for their willingness and enthusiasm in presenting the new curriculum amidst challenges with classroom management.

The facilitators also rated the teachers’ background knowledge and experiences needed to implement the program using a scale from 1-10. A rating of 1 would indicate that the teachers had no background knowledge or experiences with which to implement the integrated curriculum and a rating of 10 would indicate that the teachers possessed a plethora of background knowledge and experiences with which to implement the curriculum. Each facilitator had a different perspective regarding the background knowledge needed to implement the program effectively. The differing views were that the knowledge of science helped greatly and that a more experienced teacher who understood adolescent development made a greater impact.

“I think it varied because some of the teachers had a science background and some did not” (Facilitator A, Int.1).

A second perspective was noted.

I think the teachers who were successful were not first year teachers but they understood the importance of adolescent development and the willingness to increase their knowledge set about specific areas to share multiple perspectives that were sparked from the module. (Facilitator B, Int.1)

Facilitator B had previously praised the first year teachers for their eagerness to share the new curriculum with their students. However, their short comings in understanding adolescent development were also acknowledged. The teachers who had more teaching experience were recognized for their success in understanding adolescent development and increased knowledge.

Summary Analysis of Bank Street College Professional Development Instructional Facilitators

Both facilitators communicated their focus of the goals, training and implementation of the Get Healthy, Get Smart! professional development program, for the targeted teachers. They
each determined that the purpose of their program was to assist the teachers in gaining
knowledge of the health modules as well as teaching them how to integrate and implement the
new curriculum. The facilitators’ goals of increased knowledge for the teachers was congruent
with Guskey’s (2002) model regarding participant learning of professional development
evaluation in which the participants acquired the intended knowledge and skills through
professional development. This was shown as the facilitators modeled the lessons from the
modules that the teachers would use with their students and they also demonstrated how the
teachers would integrate the modules in their curricula. Increasing the teachers’ knowledge was
important because, “the single most important determinant of what students learn is what their
teachers know” (Linda Darling-Hammond, 2008). Small group settings were most often used to
implement the lessons. Professional development that accentuates subject matter and focuses on
student learning can have a significant impact on student learning (Resnick, 2005).

When there was some resistance shown to some of the concepts in the modules, the
facilitators discussed the teachers’ fears with them in the workshops. They also offered strategies
to overcome the resistance. Taking the facilitative or questioning approach was an effective
means of countering the issues the teachers had, because it acknowledged their concerns and
allowed their frustrations to be heard. After the concerns were voiced, then possible solutions
were suggested. Responding to the challenges with discussions and questions about the teachers’
fears as opposed to reacting defensively allowed the facilitators to manage the issues and helped
solve problems. Their practice corresponds to current literature which advises that occasionally,
a participant may speak inappropriately or hold the floor; then, it is usually best to address the
exact nature of the unhelpfulness and set out general rules for behavior and verbal contribution
(Horsfall & Clearly, 2008).
In order to keep up the momentum of the workshops the facilitators reflected on different strategies including establishing time keepers, using task based activities and adhering to an evolving curriculum. Adhering to a time frame is an important practical aspect of running a workshop because participants expect to finish on time (Horsfall, & Clearly, 2008). Sufficient time is also needed for interacting, explaining activities, dealing with questions, debriefing after activities and conducting feedback sessions. Adhering to a time keeper also prevents the facilitators from dominating the workshops (Sinclair, 2005).

Various activities of engagement were used by employing small and whole group instruction. This was important because facilitators should aim for good balance between input and group interaction, and vary presentation modes so that the material is accessed via different pathways to involve as many participants as possible (Horsfall & Clearly, 2008). The workshop was structured as a whole, with all activities feeding into the main topics of HIV prevention and nutrition knowledge. The data collected from the facilitators support the current research regarding effective professional development which advocates the focus on increasing teacher content and pedagogical knowledge, opportunities for active learning and coherence with other learning activities and collaborative and collegial learning (Guskey, 2003; Evaluating Professional Development, 2007).

In addition to analyzing the responses of the facilitators who instructed the teachers in their professional development workshops at Bank Street College, it was essential to also obtain feedback from the facilitators in their observations of the teachers as they implemented the Get Healthy, Get Smart! integrated curriculum in their classrooms. It was important for the facilitators to observe the methods the teachers used to carry out instruction and interact with their students as well as the students’ reactions because an effective evaluation includes an
examination of actual classroom practices, the training's impact on teacher behavior, and its
effect on student learning (Resnick, 2005). Observation of student interaction was also important
because schools in which teachers think more about student learning and less about teaching are
schools in which more students learn collaborative professional learning in school and beyond: A
tool kit for New Jersey educators). The following tables summarize the integral information
relayed by the facilitators based on their observations of the teachers in their classrooms.

Table 7  Facilitator C’s Observations in Classrooms

<table>
<thead>
<tr>
<th>Topics</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers’ Skills and Activities</td>
<td>student engagement</td>
</tr>
<tr>
<td></td>
<td>enrichment extensions</td>
</tr>
<tr>
<td></td>
<td>increased confidence using technology</td>
</tr>
<tr>
<td>Students’ Skills and Activities</td>
<td>use of computers</td>
</tr>
<tr>
<td></td>
<td>comfort with technology</td>
</tr>
<tr>
<td>Improvements in Curriculum Implementation</td>
<td>increased comfort level with technology</td>
</tr>
<tr>
<td></td>
<td>increased enthusiasm</td>
</tr>
<tr>
<td></td>
<td>deeper understanding of concepts</td>
</tr>
<tr>
<td></td>
<td>increased interactions among students and teachers</td>
</tr>
<tr>
<td></td>
<td>classroom spillovers into schools and community</td>
</tr>
<tr>
<td>Challenges</td>
<td>inadequate technological support</td>
</tr>
<tr>
<td></td>
<td>teacher not comfortable using technology</td>
</tr>
<tr>
<td></td>
<td>testing conflicts</td>
</tr>
<tr>
<td>Additional Support Needed</td>
<td>site based technical support</td>
</tr>
<tr>
<td></td>
<td>actual computer equipment</td>
</tr>
<tr>
<td></td>
<td>increased administrative support</td>
</tr>
<tr>
<td></td>
<td>team teaching</td>
</tr>
<tr>
<td>Implemented Concepts from PD workshops</td>
<td>student engagement using technology</td>
</tr>
<tr>
<td></td>
<td>small group lessons</td>
</tr>
<tr>
<td></td>
<td>safe spaces for sensitive topics</td>
</tr>
<tr>
<td></td>
<td>group rules and respect</td>
</tr>
<tr>
<td></td>
<td>best practices</td>
</tr>
</tbody>
</table>
Table 8  Facilitator D’s Observations in Classrooms

<table>
<thead>
<tr>
<th>Topics</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers’ Skills and Activities</td>
<td>student engagement</td>
</tr>
<tr>
<td></td>
<td>technical issues</td>
</tr>
<tr>
<td>Students’ Skills and Activities</td>
<td>ability to stay on task</td>
</tr>
<tr>
<td></td>
<td>feedback</td>
</tr>
<tr>
<td>Improvement in Curriculum</td>
<td>increased motivation</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
</tr>
<tr>
<td>Challenges</td>
<td>classroom management</td>
</tr>
<tr>
<td></td>
<td>technological difficulties</td>
</tr>
<tr>
<td>Additional Support</td>
<td>technological</td>
</tr>
<tr>
<td>Needed</td>
<td>shared best practices</td>
</tr>
<tr>
<td>Implemented Concepts from</td>
<td>classroom dynamics</td>
</tr>
<tr>
<td>PD Workshops</td>
<td></td>
</tr>
</tbody>
</table>

Description of Facilitators’ Observations in Classrooms

Both facilitators had similar perspectives which they used in their observations of the teachers’ skills and activities in the classrooms. They were interested in seeing how well the teachers were implementing the concepts they learned in the workshops. They also wanted to observe how adept the teachers were in utilizing the necessary technology to convey the lessons.

We wanted to see how comfortable they were with technology as a teaching and instructional tool, how they navigated the YLA modules and how they engaged the students. Also, their ability to engage students in the lesson based curriculum, PD session, and modules. (Facilitator C, Int.2)
The students' reactions and levels of participation with the modules were also important. Students' feedback included, “the ability to say on task throughout the lesson” (Facilitator C, Int.2) Also, feedback on what they “saw, heard and thought” was observed (Facilitator C, Int.2).

For example, the students made comparisons of the modules’ characters attributes such as their appearance and how realistic and relevant they were. Other observations of the students’ reactions were the fun that they had with the “Perpetrating Rhymes” lesson where they had to make up song lyrics which corresponded to the modules. “It was important to gauge student interest and participation because the students are the reasons for enacting the Get Healthy! Get Smart program. In order for them to reap the benefits, they must be participants in the program” (Facilitator D, Int. 2).

During the facilitators’ visits to the classrooms, they noticed improvements in implementing the new integrated curriculum. Both noted an increase in teacher and student enthusiasm and motivation. Teacher and student enthusiasm and motivation for the GHGS! program grew over time. They enjoyed participating in the activities and learning from the modules. There was increased motivation among and within students and teachers. “This spilled over school wide, with parents and in the community” (Facilitator D, Int.2).

The enthusiasm for the Get Healthy, Get Smart! program went beyond the classroom. Those involved became so motivated that they shared it with those who had not been previously involved. GHGS! began as an academic program and students found it so meaningful in their lives that they took what they learned and shared it with others outside the classroom. They saw that it could also be relevant for their families and community.

Along with improvements, there were challenges involved. Most of the challenges stemmed from technological issues. It was explained, “Some of the teachers were not trained or
comfortable. Some had no access to internet connections. Related factors such as malfunctioning audios and lack of extension cords served as challenges to implementing the curriculum as desired” (Facilitator C, Int.2).

Additional dynamics including classroom management along with testing schedules were also reported as challenges to teaching the curriculum effectively. The facilitators reported supports in the form of technological assistance, actual technological equipment including smart boards, projectors, laptops, and internet. According to their accounts more PD workshops, administrative backing, and class managements would be helpful to the teachers.

Concepts which had been taught in the PD workshops were evident in classrooms observed.

Students were engaged using technology. They also worked in small cooperative groups just as the teachers had done in their workshops. The small groups allowed the students more opportunities to dialogue as opposed to having one speaker address an entire room.” Also, Teachers also created an ambiance for “Safe Spaces” in order for the students to feel comfortable discussing sensitive topics (Facilitator D, Int.2).

The facilitators observed that the teachers utilized the trouble shooting tips, best practices and additional resources to which they had been exposed to in their professional development workshops.

*Summary Analysis of Bank Street College’s Professional Development Facilitators’ Classroom Observations*

Both facilitators identified positive changes occurring in the classroom as a function of teachers’ implementation of the curriculum. For example, many of the concepts taught in the PD workshops were evident in the teachers’ instruction.
The teachers engaged their students in the new curriculum and the students were interested. They enjoyed participating in the activities such as “Perpetrating Rhymes,” where they worked in competitive teams to identify a popular artist’s lyrics. They were also challenged to analyze the lyrics then evaluate whether the message was a positive or negative one. The students also compared themselves to the characters in their texts. Their interest in comparing the characters to themselves demonstrated that the content was relevant to them.

There were some challenges including technical issues, and the facilitators acknowledged that there were areas where more support would be needed. The areas of support included technological support, more equipment, team teaching, and increased administrative support.

Increased motivation and enthusiasm for the Get Healthy, Get Smart! program was also demonstrated. This enthusiasm could not be contained in the classroom; it traveled beyond onto schools’ members who were not participating in Get Healthy, Get Smart! and also onto the community. A positive change was observed and with any new program, there will be challenges. When the impediments are acknowledged, improvements usually follow.

**Teachers’ Experiences**

Research Question:

To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?

Each of the teachers who participated in the Get Healthy Get Smart! professional development workshops responded to a questionnaire at the end of the workshop series.
evaluating his/her experiences in the program. Survey questions 6 (a-e), 7(a-e), and 8(a-g) were directed at measuring the increase in teacher knowledge, as well as impact on their teaching practices that arose as a function of their participation in the workshops. See Appendix A for a copy of the questionnaire.

<table>
<thead>
<tr>
<th>My Professional Development</th>
<th>% Strongly Agree</th>
<th>% Agree</th>
<th>% Disagree</th>
<th>% Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was enjoyable</td>
<td>25</td>
<td>70</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Was time well spent</td>
<td>20</td>
<td>60</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Provided me with new approaches</td>
<td>35</td>
<td>45</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Provided me with material that were useful in my classroom</td>
<td>55</td>
<td>35</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Met my expectations</td>
<td>35</td>
<td>45</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 9 presents the results in each subsection of the questionnaires and the findings on teachers' understanding of the health standards, students' personal development, use of technology, and curriculum integration. The majority of teachers surveyed agreed that the professional development experience in Get Healthy, Get Smart! was enjoyable (See Table 9). Twenty five percent of teachers (n=5) strongly agreed and 70% (n=14) agreed. Five percent (n=1) strongly disagreed that the experience was enjoyable. Most teachers also agreed that their experience was time well spent. Twenty percent of teachers (n=4) strongly agreed while the majority (60%; n=12) agreed that their time in the workshops were well spent. Fifteen percent of teachers (n=3) disagreed that their time was well spent; while 5% (n=1) strongly disagreed. When asked if they agreed that their professional development experience with Get Healthy, Get
Smart! provided them with materials that were useful in their classrooms, 55% of teachers (n=11) agreed and 35% (n=7) strongly agreed. There were 5% (n=1) of teachers who each disagreed and strongly disagreed that the materials they received were useful in the classroom.

The majority of teachers also felt that their professional development experiences met their expectations. Thirty five percent of teachers (n=7) agreed and 45% (n=9) strongly agreed that the workshops met their expectations. Twenty percent of teachers (n=4) did not agree, however.

Table 10  Get Healthy, Get Smart! Teacher Survey

<table>
<thead>
<tr>
<th>GHGS! Has</th>
<th>% Strongly Agree</th>
<th>%Agree</th>
<th>%Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced my understanding of the health standards</td>
<td>30</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Improved my knowledge about curriculum integration</td>
<td>35</td>
<td>45</td>
<td>20</td>
</tr>
<tr>
<td>Advanced my understanding of students' personal development</td>
<td>25</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Advanced my understanding on the use of technology during instruction</td>
<td>30</td>
<td>55</td>
<td>15</td>
</tr>
<tr>
<td>Improved my knowledge on how to integrate Health with the Science curriculum I teach</td>
<td>20</td>
<td>30</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 10 presents the teachers' beliefs about the understanding and knowledge they gained based on their professional development trainings at Bank Street College. The majority of teachers who responded to the survey agreed that the Get Healthy, Get Smart! program increased their understanding of the health standards. Fifty percent of the teachers (n=10) agreed and 30%
who strongly agreed that GHGS! improved their knowledge about curriculum integration. Twenty percent (n=4) of them did not believe that their understanding of the health standards had been increased. When asked if the teachers’ knowledge of curriculum integration had improved, again most of the teachers reported favorable results. Thirty five percent (n=7) felt strongly that they had gained much knowledge about curriculum integration, while 45% (n=9) of them were in agreement and 20% (n=4) reported that their knowledge had not increased.

Knowledge in other areas also increased for most of the teachers at the end of their workshop series. When asked if the professional development they engaged in advanced their understanding of the students’ personal development, 60% (n=12) agreed, 25% (n=5) strongly agreed, and 15% (n=3) did not agree. The increase in knowledge also extended to the teachers’ proficiency in technology. There was an even split of the percentage of those who agreed and disagreed when the twenty teachers were asked if Get Healthy, Get Smart! professional development advanced their understanding on the use of technology during instruction and if it improved their knowledge on how to integrate health with the science curriculum that they taught.

Overall, most of the teachers surveyed reported an increase in knowledge in the areas of curriculum integration, health standards, students’ development and technology as a result of participating in the Get Healthy, Get Smart! model. The levels of their increase in knowledge varied. Some felt strongly in their increase of knowledge, most were in agreement and few did not experience much change.

<table>
<thead>
<tr>
<th>I Felt</th>
<th>%</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported by Bank</td>
<td>35</td>
<td>60</td>
<td>5</td>
</tr>
<tr>
<td>Street</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11 Get Healthy Get Smart! Teacher Survey – Support
Table 11 represents the teachers’ perceptions of support by professional development and school staff as well as access to other necessary resources needed to implement and integrate the Get Healthy, Get Smart! program.

All of the teachers with the exception of one felt that they had the support of the Bank Street staff who worked with them. Thirty five percent (n=7) agreed strongly and sixty percent (n=12) agreed that they were supported by Bank Street. Similarly, the teachers also felt a comparable level of support from the Urban Technology Staff. Again, 35% (n=7) teachers strongly agreed about feeling supported and 60% (n=12) agreed that they felt supported. Five percent of the teachers did not answer this question. The majority of teachers also perceived support from their peers who were involved in Healthy Steps. Sixty five percent of teachers (n=13) agreed that they felt the support, while 5% (n=1) strongly agreed and 25% (n=5) disagreed that they felt supported by the other teachers involved with the Healthy Steps component of the program. When it came to support from the administration, most of the teachers concurred that they felt encouraged. Seventy percent of teachers (n=15) agreed that they
felt support while 15% (n=3) strongly agreed, and 10% (n=2) disagreed about feeling supported by the administration.

Aside from staff support, the teachers were also queried about their technological and resource support. When asked how they felt about technology being available to implement the integrated curriculum, most agreed that the technology was available. Fifty five percent of teachers (n=11) agreed, 30% (n=6) strongly agreed and 15% (n=3) disagreed that there was sufficient technological means available to implement the GHGS! program. In addition to technology, the teachers were asked if they thought the resources needed to implement GHGS! were adequate. The majority of teachers agreed that there were enough resources. Fifty percent (n=10) agreed, 20% (n=4) strongly agreed and 30% (n=6) disagreed. Most of the teachers also felt that problems that arose were quickly resolved. Fifty percent (n=10) were in agreement, 25% (n=5) strongly agreed and 20% (n=4) teachers disagreed. Five percent (n=1) of the answers were missing from this question.

**Relationships**

A Pearson correlation was conducted to determine the relationship between the teachers’ overall assessment of their professional development experience at Bank Street College and their perceptions of how Get Healthy, Get Smart! had enhanced teacher knowledge. There was a significant, positive relationship between the teachers’ overall assessment of their PD experience and their increase in knowledge, \( r = .416, p < .038 \), indicating that as teacher knowledge increased, the overall positive assessment increased.

A Pearson correlation was also performed to determine the relationship between
the overall assessment of the teachers' experiences and their views on the levels of support they experienced. There was a positive but not significant relationship between overall assessment and the teachers' views on the levels of support they experienced, \( r = 0.186, p > 0.237 \).

A third correlation analysis between teacher knowledge and levels of support found that the relationship between the two variables were positive but the relationship was not statistically significant, \( r = 0.132, p > 0.312 \).

The third research question asked the following:

**What are teachers' perceptions regarding the most successful aspects of the professional development program?**

There were many successful concepts learned from the professional development trainings that the teachers learned. The teachers identified the YLA modules they had taught during the school year. Twenty five percent of them had taught the “Personal Relationships” and seventy five percent had not. All of them taught the “Healthy Habits” modules and ten percent had taught “Self Discovery” while ninety percent had not. In order to answer the above research question, survey questions 9 (a-b), 10 (a-d), 11 (a-n), and 13 (a-k) were analyzed. The following tables depict the teachers' responses.

**Table 12** Get Healthy, Get Smart! Teacher Survey

<table>
<thead>
<tr>
<th>How Confident Are You That</th>
<th>% Not at All</th>
<th>% Very Little</th>
<th>% Some</th>
<th>% A Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can effectively apply the new knowledge?</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>Your involvement with</td>
<td>6</td>
<td>17</td>
<td>28</td>
<td>50</td>
</tr>
</tbody>
</table>
GHGS! is likely to have a positive & lasting influence on your classroom instruction?

Table 12 portrays the teachers' feelings of confidence in the application and long term benefits of the Get Healthy, Get Smart! program based on their professional development experience at Bank Street College. All of the teachers who answered the survey determined that they would be able to effectively apply the lessons they had been exposed to in their workshops. The majority, 70% (n=14) were very confident in their ability to do so and the others, 30% (n=6) had some confidence. When asked if the teachers believed that their involvement with Get Healthy, Get Smart! would have a positive and lasting influence on their classroom instruction, the majority of teachers, 80% (n=16) reported that it would. Fifty percent of teachers (n=10) felt strongly that the program's impact would be long lasting and positive in their classrooms, while 30% (n=6) felt it would have some positive influence. There were 15% of teachers who felt the program would leave very little impression on their classrooms and 5% (n=1) who reported that GHGS! would have no bearing on their classroom in the future. Ten percent of the teachers (n=2) omitted this question.

<table>
<thead>
<tr>
<th>Based on your experience how many students at this school...</th>
<th>%Nearly All or All</th>
<th>%Most</th>
<th>%Some</th>
<th>%None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were excited about wearing the pedometers?</td>
<td>70</td>
<td>15</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Were motivated while working with the YLA modules?</td>
<td>30</td>
<td>50</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 13 depicts the targeted teachers’ perceptions of their students’ excitement about the activities sponsored by GHGS! The majority, (80%; n=16) of the teachers reported that nearly all or all of the students they observed were excited about wearing the pedometers. Fifteen percent (n=3) reported that most were excited. Five percent (n=1) of the teacher population reported that some were excited and another 5% reported that none were excited. Twenty five percent of the teachers claimed that nearly all or all students were excited about having lunch at the governor’s mansion. Thirty five percent of teachers (n=7) observed most students being excited. Another 30% (n=6) reported some students being excited and 5% (n=1) claimed that there were no students who were excited. One teacher did not respond to this question.

Thirty percent of teachers (n=6) reported that nearly all or all of the students were motivated while working with the YLA modules. Half of the surveyed teachers (50%; n=10) noted that most students were motivated, while 20% (n=4) of teachers claimed some students were motivated. No one said that there weren’t any students who were motivated. Teachers were also asked about the students’ motivation for the pep rally. Ten percent of teachers (n=2) asserted that nearly all or all of the students were motivated by the pep rally and 35% (n=7) stated that most were motivated. Similarly, another 35% (n=7) of teachers also claimed that some students were motivated while 5% (n=1) reported that were there no children who were motivated by the pep rally.
Table 14 Teachers' Perceptions of the Severity of Targeted Student Issues Prior to GHGS!

<table>
<thead>
<tr>
<th>Issue</th>
<th>% Not at all Serious</th>
<th>% Somewhat Serious</th>
<th>% Very Serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity in this school?</td>
<td>25</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Peer pressure</td>
<td>0</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Disruptive student behavior in class</td>
<td>10</td>
<td>65</td>
<td>25</td>
</tr>
<tr>
<td>Physical fighting between students</td>
<td>25</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
<td>Verbal harassment or bullying among students?</td>
<td>20</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>Student use of alcohol in this school?</td>
<td>70</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Gang-related activity in this school?</td>
<td>55</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Students' use of drugs in this school?</td>
<td>65</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Students' use of cigarettes in this school?</td>
<td>75</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Student depression or other mental health problems?</td>
<td>45</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>Students underachieving?</td>
<td>10</td>
<td>60</td>
<td>25</td>
</tr>
<tr>
<td>Students' lack of understanding of eating healthy?</td>
<td>5</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Students' appreciation of the value of regular exercise?</td>
<td>10</td>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>Student motivation?</td>
<td>10</td>
<td>75</td>
<td>15</td>
</tr>
<tr>
<td>Students' appreciation of the value of regular exercise</td>
<td>10</td>
<td>60</td>
<td>35</td>
</tr>
<tr>
<td>Students' use of drugs in this school?</td>
<td>65</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Students' use of cigarettes in this school?</td>
<td>75</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Students' use of alcohol in this school</td>
<td>70</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 14 depicts the teachers’ perceptions about their students’ motivation and excitement about some of the GHGS! activities in which they participated. The majority of teachers surveyed acknowledged that there were at least somewhat serious to very serious problems in regards to health such as obesity in the school (85%; n=17), lack of understanding in eating healthy (50%; n=10), and appreciation of regular exercise (70%; n=14). Most teachers also saw problems in students’ relations such as; peer pressure (55%; n=11), physical fighting between students (65%; n=13), verbal harassment or bullying (70%; n=14), as well as in their academics including cutting classes (80%; n=16), school truancy (85%; n=17), underachievement (70%; n=14), lack of motivation (85%; n=17), and disruptive student behavior in class (75%; n=15). Student depression and mental health problems were also acknowledged by the majority of teachers (55%; n=11) as a serious issue. Although there were teachers who reported degrees of serious issues regarding gang activity and students use of drugs and cigarettes, most teachers said that these issues were not at all serious within the school.

Table 15  Student Changes Resulting from GHGS!

<table>
<thead>
<tr>
<th>What kinds of changes have you seen in the students resulting from GHGS!</th>
<th>%Yes</th>
<th>%No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>35</td>
<td>65</td>
</tr>
</tbody>
</table>
Table 15 elicited the teacher's responses regarding changes that they observed in their students resulting from participating in GHGS! The teachers reported that they noticed several improvements in the students since the implementation of the program. The majority of teachers cited student improvement in areas including the students' abilities to be aware of how peers and the media influenced one's feelings and attitudes, in addition to their abilities to analyze the influence and culture and media on health attitudes and behaviors, as well as understanding the benefits of a healthy lifestyle and the consequences of an unhealthy one and exercising. Thirty five percent (n=7) of the teachers also noticed student improvement in their motivation, staying on task and in getting along with each other. Sixty five percent did not see any improvements in these areas however.
Almost half (45%; n=9) of the teachers surveyed saw an improvement in the students’ self esteem while a little more than half (55%; n=11) reported seeing no improvement in self esteem. When it came to improvement in areas such as learning to work towards fostering healthy relationships, problem solving issues regarding relationships, and academic behaviors a relatively small number of the teachers saw improvements in their students as opposed to those who reported no improvements.

The relationship between the teachers’ reports of student excitement and the students’ issues were also analyzed. The relationship was found to be negative (-.257). It was also not statistically significant (p > .188). This indicated that as student excitement increased, the volume of students’ issues decreased.

In discerning the relationship between the teacher confidence and the changes they witnessed among the students as a result of GHGS! there was found to be a positive relationship (.546) between the two variables. The relationship was also statistically significant (p < .010). This indicated that as teacher confidence increased, their perceptions of student improvement also increased.

**Student Outcomes: Attitudes and Behaviors**

To fully determine the impact on the Get Healthy, Get Smart! program, teachers and facilitators’ feedback, along with student learning based on participation in the program were assessed. The following question seeks to ascertain the impact of the integrated curriculum on the students:
To what extent did the professional development of an integrated curriculum have an impact on students' health attitudes and behaviors?

Three hundred and seventy eight middle school students in grades 6, 7, and 8 were originally surveyed. These students were enrolled in 11 public middle schools in central Harlem, New York. At the beginning of the Get Healthy, Get Smart! initiative, 378 students were given a baseline questionnaire that assessed their lifestyles and health knowledge. The students were then given an identical survey and their results were compared to examine the extent in which the professional development and integrated curriculum had influenced their attitudes and behaviors. Three hundred and seventy eight students took the baseline survey, and one hundred and forty seven answered the post test survey. Of the 378, 101 were 11 years or younger, 65 were 12, 115 were 13, and 91 were at least 14 years old. Six students did not report their ages. There were 195 females and 181 males reported. 1 person did not answer the gender question. The students' races consisted of 210 Black or African American, 17 Native Hawaiians or Pacific Islander, 9 American Indian or Alaskan Native, 5 Asians, 9 American Indian or Alaskan Natives, 2 Black and White, 2 Black, Native Hawaiian or other Pacific Islander, 6 Black and White, 17 Black and American Indian or Alaskan Natives, and 7 White student. One hundred and twelve students did not answer the race question.

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid White</td>
<td>7</td>
<td>1.9</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Black or African American</td>
<td>210</td>
<td>55.6</td>
<td>78.9</td>
<td>81.6</td>
</tr>
<tr>
<td>Asian</td>
<td>5</td>
<td>1.3</td>
<td>1.9</td>
<td>83.5</td>
</tr>
</tbody>
</table>
The results were reported only from those 147 students who took both surveys. Of those students, 46 were eleven years old or younger, 8 were 12 years old, 32 were 13 years old and 38 were 14 years or older. Two students did not answer the age question. There were 66 females and 88 males. One student did not answer the gender question. The students’ races consisted of 88 Black or African American, 7 Native Hawaiians or Pacific Islander, 4 American Indian or Alaskan Native, 2 Asians, 3 Black and American Indian or Alaskan Natives, 2 Black and White, 2 Black, Native Hawaiian or other Pacific Islander and 1 White, Black and American Indian or Alaskan Native. Thirty eight students did not answer the race question.
The questionnaires consisted of 77 questions including four demographic ones. The questions were grouped into categories such as Peer Pressure, which probed their feelings and beliefs about issues including fitting in with contemporaries; exercise and eating habits; self esteem; family relationships and their self worth. Future aspirations assessed their ambitions and knowledge about health and nutrition. Pre and posttest responses were compared to measure the students’ growth and progress before and after being educated by their teachers from the modules.

Table 16  Peer Pressure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>T Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important to fit in with group</td>
<td>2.56 (.795)</td>
<td>2.51 (.840)</td>
<td>.576</td>
</tr>
<tr>
<td>Would do something wrong to stay on a friend’s good size</td>
<td>.50 (.816)</td>
<td>.53 (.824)</td>
<td>-.436</td>
</tr>
<tr>
<td>Hard for friends to get me to change my mind</td>
<td>2.01 (1.106)</td>
<td>1.96 (1.089)</td>
<td>.457</td>
</tr>
<tr>
<td>I will say my true opinions in front of my friends even though they make fun of me</td>
<td>2.18 (.987)</td>
<td>2.25 (.971)</td>
<td>-.795</td>
</tr>
<tr>
<td>If all my friends started smoking cigarettes, I would start smoking too</td>
<td>2.92 (.392)</td>
<td>2.91 (.455)</td>
<td>.301</td>
</tr>
<tr>
<td>I go along with friends just to keep them happy</td>
<td>.73 (.392)</td>
<td>.65 (.835)</td>
<td>.954</td>
</tr>
<tr>
<td>I take more risks when I am with my friends than when I am alone</td>
<td>1.12 (1.101)</td>
<td>1.18 (1.103)</td>
<td>-5.48</td>
</tr>
</tbody>
</table>

* Statistically significant
Table 16 depicts the students' responses regarding their beliefs and experiences with peer pressure. Was there an improvement in students' abilities to deal positively with peer pressure? After a year of participating in the importance of fitting in with the group was not as important to the students as it had been prior to being in the intervention. The students' pretest mean was 2.56 compared to the posttest mean of 2.51. However, the change was not enough to be statistically significant. Fewer students, furthermore reported on the post tests that they would go along with friends just to keep them happy as opposed to the pretests. The pretest mean was .73 and this number decreased to a post test mean of .65.

The students also showed an improvement for the better when asked if they would say their true opinions in front of their friends even though they would be made fun of. The pretest mean was 2.18 and increased to 2.25 on the post test. Despite this improvement, the result was not significant. Fewer students also reported being influenced by friends to smoke cigarettes on their posttests. The pretest mean was 2.92 and decreased to 2.91. In addition, fewer students claimed that it was harder for students to get them to change their minds after the treatment as compared to before they were taught the concepts in the modules. The pretest score was 2.01 and decreased to 1.96 for the post test.

However, on their posttests, more students reported that they would do something wrong to stay on a friend's good side. The pretest mean for this question was .50 compared to the posttest mean which increased to .53. More students also reported taking more risks when they were with their friends than when they were alone. The pretest mean was 1.1 and increased to 1.18 on the post test.
Table 17 asked the students about their exercise habits. The students showed improvements in their exercising habits and beliefs after being taught from the modules. There was a significant increase in students’ exercise habits per week for 30 minutes \((p<.048)\). The posttest mean of 1.79 increased from the mean of 1.75. The importance of exercising and eating healthy in the family also increased significantly \((p<.025)\). In addition, there were more students who decided that if their parents exercised with them they would exercise more often. The pretest mean increased from .89 on the pretest to 1.00 on the posttest. The students also showed an improvement in asking their parents about healthy eating and exercise. The pretest mean was 1.75 as compared with the posttest mean of 1.79. More students also began to exercise more frequently. Slightly fewer students believed their friends exercised at least once a week as compared to the onset of Get Healthy, Get Smart! The pretest score was 1.81 compared to the posttest score of 1.80.
Table 18 asked the students questions about their eating habits. The students' eating habits improved in nearly all areas after being exposed to Get Healthy, Get Smart! The students placed significantly more importance on the connection between what they ate and their future health after their teachings as compared to when they were first surveyed. (p<.035). They also demonstrated a better understanding of how eating habits could make a big difference in their chances of contacting ailments such as heart disease. Their understanding improved from a mean of .50 on their pretests to .38 on their posttests. The amount was not significant (p>1.63). They
also showed improvement in the amount of fruits and vegetables they consumed each day. The mean increased from 2.06 on their pretest to 2.08 on their posttests. The amount was not significant (p>2.268). Improvement was also noted in the amount of times they ate out at a fast food restaurant. The number of times, the students ate out had decreased in comparison to when they were first surveyed. The mean declined from 1.18 to 1.05. The students’ answers remained consistent when asked about their beliefs regarding their friends’ eating habits.

Table 19 Self Esteem

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>TValue</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t have enough control over the way my life is going</td>
<td>3.11 (1.068)</td>
<td>3.12 (1.063)</td>
<td>-.068</td>
</tr>
<tr>
<td>For me, good luck is more important than hard work or success</td>
<td>3.42 (.923)</td>
<td>3.56 (.829)</td>
<td>-1.514</td>
</tr>
<tr>
<td>I can’t do things as well as most other people</td>
<td>2.77 (.147)</td>
<td>2.85 (.158)</td>
<td>.495</td>
</tr>
<tr>
<td>I know at least one adult I could talk to about my problems</td>
<td>1.54 (.896)</td>
<td>1.51 (.929)</td>
<td>.328</td>
</tr>
<tr>
<td>I know adults who often cheer me on</td>
<td>1.47 (.803)</td>
<td>1.47 (.822)</td>
<td>.000</td>
</tr>
<tr>
<td>Do you have more self-confidence than your friends in the group you hang out with?</td>
<td>2.22 (1.214)</td>
<td>2.38 (1.228)</td>
<td>-1.193</td>
</tr>
</tbody>
</table>

*statistically significant

Table 19 assessed the student’s thoughts and experiences in relation to their self esteem. When answering the questions about self-esteem, there were several improvements in the students’ behaviors. More students reported having someone to confide in when asked if they knew at least one adult with whom they could talk to about their problems on their posttests. The pretests mean improved from 1.54 to 1.51 on the posttest. The amount was not significant
Also, when asked if they could do things as well as others and if they had enough control over the way their lives were going, the students reported more control and aptitude after being taught from the modules. The pretest means were 3.11 and 2.77, respectively. They then improved to 3.12 and 2.85, respectively. Students also equated good luck which is defined as good fortune or a happy outcome, especially by chance (Dictionary.com, 2009), as being less important than hard work or success after being exposed to the teachings in the modules. The pretest improved from 3.42 to 3.56 on the posttest.

The results increased slightly when the students were asked if they knew adults who cheered them on. When asked if they had more self-confidence than their counterparts, an increased number of students reported having less self-confidence than they had previously. The pretest mean was 2.22, which then increased to 2.38 on the posttest.

It was expected that the students on the posttest would have shown an improvement in their self esteem. Although not significant, the students' attitudes increased from the pretest.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>T Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Living arrangements</td>
<td>3.77 (2.453)</td>
<td>3.67 (2.533)</td>
<td>.469</td>
</tr>
<tr>
<td>Mother figure</td>
<td>.97 (1.59)</td>
<td>.99 (.278)</td>
<td>.533</td>
</tr>
<tr>
<td>Closeness to mother</td>
<td>2.60 (.729)</td>
<td>2.53 (.891)</td>
<td>.970</td>
</tr>
<tr>
<td>Time spent with mother</td>
<td>1.67 (.630)</td>
<td>1.72 (.585)</td>
<td>-8.84*</td>
</tr>
<tr>
<td>Easy to talk with mother about things</td>
<td>1.50 (.659)</td>
<td>1.51 (.645)</td>
<td>-1.55</td>
</tr>
<tr>
<td>that happen in school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy to talk with her about things</td>
<td>1.56 (.753)</td>
<td>1.59 (.724)</td>
<td>-.498</td>
</tr>
<tr>
<td>that happen in my life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father figure</td>
<td>.92 (.273)</td>
<td>.92 (.333)</td>
<td>.000</td>
</tr>
<tr>
<td>Closeness to father</td>
<td>2.21 (.991)</td>
<td>2.16 (1.038)</td>
<td>.624</td>
</tr>
<tr>
<td>Easy to talk with</td>
<td>1.56 (.753)</td>
<td>1.59 (.724)</td>
<td>-.498</td>
</tr>
</tbody>
</table>
Table 20 depicts the students' living arrangements with their parental figures as well as their relationships with each parent. The students' family arrangements changed within the twelve months that they had been exposed to the Get Healthy, Get Smart! program. More students reported a slight increase in having a mother figure. This was shown as a pretest score of .97 and increased to .99 on the posttest. The results for their father figures remained the same at .92. The students reported their information about the levels of closeness with their mothers and fathers during the pretest as 2.60 and 2.21, respectively. They then experienced less closeness with each parent nearly a year later with posttest scores of 2.53 and 2.16, respectively.

The pretest scores were 1.49 and increased to 1.57 on the posttest. Although the students felt less closeness with their fathers, they spent more time with them. The pretest mean was 1.67 and it increased to 1.72 on the posttests. The amount of time the students spent with their mothers did not increase significantly (p>-.84). In addition, the students also reported an increase in their ease in discussing things that happened in schools with their moms as well as with their dads. The pretest means were 1.50 and 1.56 for mom and dad respectively. Each score increased to 1.51 and 1.59 on the posttests for mom and dad, respectively. Even though the students found it easier to discuss school events with their fathers, they did not feel as comfortable, discussing their personal lives with their fathers. Fewer students reported talking to
their fathers about their personal lives during the posttest which showed a mean of 1.89 compared to the pretest which showed a mean of 1.75. In contrast, an increased number of students spoke to their mothers about events and issues in their personal lives after they had been taught from the modules. The pretest mean of 1.56 increased to 1.59 on the posttest. Although the levels of closeness decreased between parent and child, most of the students' interactions and communications with their parents increased after being taught the lessons from the Get Healthy, Get Smart! modules.

Table 21 Aspirations

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>T Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't know what I want out of life</td>
<td>.10 (.306)</td>
<td>.10 (.306)</td>
<td>.000</td>
</tr>
<tr>
<td>I have a clear picture of what I'd like to be in the future</td>
<td>.92 (.268)</td>
<td>.98 (.987)</td>
<td>-.640</td>
</tr>
<tr>
<td>I don't know what my long range goals are</td>
<td>.17 (.399)</td>
<td>.12 (.331)</td>
<td>.928</td>
</tr>
</tbody>
</table>

* statistically significant

The students showed improvements in their aspirations. While many had a precise picture of what they wanted to be in the future during the pretest, even more had a clearer picture after being taught from the modules. The pretest mean was .92 and increased to .98 during the posttest. Some students also showed uncertainty when they were first asked what they wanted out of life and about their long range goals. When they were asked these questions after the intervention, there were less students who answered that they did not know what they wanted out of life or did not know what their long range goals were. The pretest mean for those who were not sure about their long-term goals was .17 and decreased to .12 during the posttest. The means for those who did not know what they wanted out of life remained consistent at .10 for both surveys (p>000).
Table 22 assessed the students’ ability to make decisions about activities in their lives.

The number of students who stated that they would prefer to play outside instead of watching TV on the weekends remained the same. More students did not believe and thus chose false when asked if exercise was good for their health when they were older but not presently. The pretest mean was 1.81 compared to the posttest mean of 1.90.

Table 23 Locus of Knowledge

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pretest % Correct</th>
<th>Posttest % Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories make you lose weight</td>
<td>80</td>
<td>73</td>
</tr>
<tr>
<td>Calories are the body’s source of energy</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>Ninety-nine percent of people who are HIV positive are either gay or drug addicts</td>
<td>29</td>
<td>35</td>
</tr>
<tr>
<td>You can’t have HIV without having AIDS</td>
<td>37</td>
<td>50</td>
</tr>
<tr>
<td>HIV stands for Human Immunodeficiency Virus</td>
<td>69</td>
<td>81</td>
</tr>
<tr>
<td>You can contract HIV by sitting on toilets</td>
<td>42</td>
<td>63</td>
</tr>
<tr>
<td>Both humans and animals can</td>
<td>16</td>
<td>21</td>
</tr>
</tbody>
</table>
get HIV
AIDS stands for Acquired Immune Deficiency Syndrome
If you abstain from sexual intercourse you have a 50% Chance of contracting the virus that causes HIV
The most widespread sexually transmitted disease in the US is HPV
Some diseases can be prevented by having a healthy diet and exercising regularly
If you are at risk for sexually transmitted disease you should be tested at least every two years
Every year, 3 million teens become infected with sexually transmitted disease
Condoms have very little use in preventing the spread of HIV
If you have a sexually transmitted disease you will definitely know

Table 23 compared the knowledge that the students had gleaned about sexual disease prevention and HIV after the GHGS! intervention. The Locus of Knowledge section consisted of fifteen questions which quizzed the students on their knowledge of nutritional and sexual health. Compared to the pretests, the students showed improvements on the posttests for the majority of questions. More students answered 10 of the questions with more accuracy during the post tests compared with the pretest. Four questions were answered with less accuracy during the post test as compared with the pretest, and one question’s result remained consistent. Before being taught from the modules, the average percentage for the correct answers was 41.33. After being taught
from the modules, the average percentage of correct answers was 48.73. The average difference in improvement was 7.4%.

CHAPTER V
SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Overview of the Study

The purpose of this study was to examine the impact that a professional development program funded by the Elton John Foundation had on students from eleven middle schools in Harlem, New York. Get Healthy, Get Smart! is the result of the Elton John HIV/AIDS Awareness grant that was awarded to the National Urban Technology Center, a not-for-profit corporation that helps students and their families in underserved communities to incorporate technology into their lives. The professional development program was administered by Urban Tech who disseminated the information using their Youth Leadership Academy modules in conjunction with the New York city’s health curricula to form a web-based integrated curriculum called Get Healthy, Get Smart! The workshop’s facilitators taught the teachers to implement and integrate Youth Leadership Academy modules for leadership training and HIV and AIDS awareness and prevention in the NYDOE core curriculum.

The significance of this research is in providing educational leaders with an understanding of the elements which positively impact professional development and in turn the success of an integrated curriculum, of which the ultimate goal is student improvement and achievement. Effective programs which impact students are important because today’s children are tomorrow’s citizens. However, today’s children are likely to be the first generation to live
shorter, less healthy lives than their parents. This alarming statistic is due to the 25 million children who are obese or overweight. Therefore it is vital that these and all other children are taught how to make healthy lifestyle choices and put them into practice.

Schools are responsible for preparing students for life as citizens. How can students lead productive lives if they are too sick to do so? Many of the nation’s jobs are already outsourced to other countries. US economic competition will hurt even more if the country’s workforce became less healthy and productive. Obesity related health costs cost many businesses and exorbitant amount of money (Levi, et al., 2007). It is vital that all involved invest in changes that will positively impact the future health of the country. Adolescent health issues have become a crisis and everyone should be engaged: government at all levels, businesses- large and small, health care providers, community groups, and families. Schools are especially essential because they house a large audience of children.

An integrated curriculum such as the Get Healthy, Get Smart! was an effective means of reaching a population whose overweight condition had more than tripled in the past twenty years (National center for Chronic Disease Prevention and Health Promotion, 2008). An integrated curriculum prepares children for lifelong learning because it views education as a process for developing abilities required by life in the 21st century instead of teaching disciplines as discrete or departmentalized subject matter. It also reflects the real world because it helps students to see relationships among ideas and concepts as they plan and experience a theme based inquiry. Relationships between in and out of school topics become obvious to students (www.todaysteacher.com/Thematicteaching.htm, 2007).

Curriculum integration initiates with the idea that the sources of the curriculum should be problems, issues and concerns posed by life itself. These problems include self or personal
concerns and issues and problems posed by the larger world (Beane, 1995). In this case, the
problem facing adolescents were health risks associated with obesity and sexually transmitted
diseases. Beane (1995) further reported that as teachers facilitate learning within a framework of
curriculum integration, their students are encouraged to integrate learning experiences into their
schemes of meaning so as to broaden and deepen their understanding of themselves and their
world. In addition, their students are engaged in seeking acquiring and using knowledge in an
authentic manner. Their knowledge becomes utilized to solve problems and concerns at hand.

Findings and Conclusions
Research Question 1: What is the relationship between the professional development teachers
received and implementation of the integrated curriculum?

This question focused on the relationship between professional development and
implementation of the Get Healthy, Get Smart! integrated curriculum. The facilitators who were
responsible for administering the professional development to the targeted teachers provided
insights about their experiences teaching the program as well as their perceptions of the teachers’
and students’ reactions and experiences with the GHGS! program. The data collected from the
facilitators supports the current research regarding effective professional development which
advocates the focus on increasing teacher content and pedagogical knowledge, opportunities for
active learning and coherence with other learning activities and collaborative and collegial
learning (Guskey, 2003; Evaluating Professional Development, 2007). Overall, the facilitators
who visited the teachers and students in their classrooms observed that they implemented the
integrated curriculum and reported positive changes occurring.
Each of the facilitators aimed at increasing the teachers’ knowledge of the materials used which would in turn be implemented in the classroom. They did so by using a hands-on approach for participant driven engagement. For them it was essential that the teachers place themselves in a similar setting to the one their students would later be in when learning the new material. This practice corresponds to research regarding successful professional development which asserts that for professional development to be effective in helping teachers gain knowledge and skill, the presenter should teach the information using the same methods that the participants would use to present this material to their learners (Loucks-Horsley et al., 1996).

The facilitators’ design of the teachers’ activities they participated in within the workshops reflected the core features which significantly affect teacher learning. These features included the utilizing workshop form of activity instead of study groups, collective participation of teachers from the same school, grade, or subject and the duration of the activity (Evaluating Professional Development, 2007).

The professional training administered was also structured to ensure and encourage communication and collaboration among the teachers to ensure their sustained attention to critical topics. The workshops were structured to introduce the module, share resources and give teachers a first hand opportunity to explore the curriculum using the computer. The hours were planned with various activities of engagement thru whole group and small group interactions. Equally important to keeping up the momentum was ensuring that the participants and curriculum were in sync. It was evident that both facilitators prepared and considered in advance and retrospectively to ensure that the PD participants were aligning their teachings with the newly integrated curriculum. The facilitators’ interviews reflected that they reviewed, planned carefully and had conversations with the program’s stakeholders. In addition, when visiting
schools, they reported using the integrated curriculum’s modules for planning and talking points. This helped the teachers understand aspects of the curriculum and modeled how to use the curriculum with the students. The facilitators’ responses corresponded with current research which asserts that planners of professional development must consider a number of critical issues; including administrative support for teachers, opportunities for teacher collaboration and collegiality, adequate time for teacher learning and sustainability for professional growth (Peck, 2005). In addition, professional development should be purposeful and linked to the classroom teachers’ needs and practices (Slepkov, 2008).

The facilitators arranged the workshop sessions in such a way as to encourage small group conversations. Having the teachers share their views allowed them to gain new perspectives and insights. This included elaborating reasons for resistance to implementation. Having discussions around the teachers’ fears and challenges allowed for solutions to be discussed. Thus, the teachers would feel more comfortable, their fears would be alleviated and they would be more apt to use what was learned in their classrooms. This practice is consistent with the research which states that practicing educators have discovered that using student centered approaches that allow students to become actively involved in their education are more successful in teaching the content and maintaining their interest because it allows them to more actively interact with the topic being studied. The student centered approach can also be used to effectively deliver professional development workshops to teachers, extension personnel and other adult audiences (Myers & Grady, 2004). Also, in workshops which are initiated and facilitated by professionals other than school administrators, group work may be a key to meaningful, effective, sustained professional development and a necessary component of adult learning. A feeling of ownership and commitment through self-improvement allows ongoing
teacher development to flourish (Mycue, 2001). The facilitators conducted the workshops with a more student centered approach instead of a teacher centered approach. Student centered learning and high levels of interaction and among students and teachers are also key features of an integrated curriculum (Grant & Paige, 2007).

The facilitators' feedback based on their experiences with the targeted teachers at the Bank Street College workshops was vital in helping to assess the relationship between the professional development and implementation of the Get Healthy, Get Smart! curriculum because observation is considered one of the most unbiased form of data collection; it removes bias such as with self reporting surveys and allows a clear look into what occurs in professional development activity and subsequently, in the classroom as the teacher implement the new content and strategies (Desimone, 2009). Also, some of the most powerful teacher learning experiences can occur in a teacher's own classroom through self for observer examination of the teacher's practice (Desimone, 2009). This being said, additional facilitators observed the teachers in their classrooms as they taught their students the integrated curriculum. These facilitators' observations were instrumental in providing data about the relationship between the professional development and the implementation of the integrated curriculum. It was imperative to observe the teachers as they taught the students because quality of instruction is strongly predictive of gains in student achievement (Collopy, 2008).

Both of the facilitators had similar perspectives when observing the teachers' skills and activities in the classrooms. They were interested in seeing how well the teachers were implementing the concepts they learned in the workshops to teach the modules to the students. They also wanted to see how adept the teachers were in utilizing the necessary technology to convey their lessons. "We wanted to see how comfortable they were with technology as a
teaching and instructional tool, how they navigated the YLA modules and how they engaged the students.” Also, it was their ability to engage students in the lesson based curriculum, PD session, and modules.

The students’ reactions and participation with the modules were also important. Students’ responses included, “the ability to stay on task throughout the lesson.” Also, feedback on what they saw, heard and thought was observed. For example, the students made comparisons of the modules’ characters’ attributes such as their appearance and how realistic and relevant they were. Other observations of the students’ reactions were the fun that they had with the “Perpetrating Rhymes” lesson where students had to make up song lyrics which corresponded to the modules. It was important to gauge student interest and participation because the students are the reasons for enacting the Get Healthy Get Smart! program. In order for them to reap the benefits, they must be active participants in the program.

As the facilitators visited classrooms, they noticed improvements in implementing the new integrated curriculum. Both noted an increase in teacher and student enthusiasm and motivation. Also, there was, “increased motivation among and within students and teachers. This spilled over school wide, with parents and in the community.” The enthusiasm for the Get Healthy, Get Smart! program transcended beyond the classroom. Those involved became so motivated that they shared it with those who had not been previously involved.

Along with improvements, there were challenges involved. Most of the challenges stemmed from technological issues. Some of the teachers felt that they needed more professional development training in order to feel completely comfortable in teaching the integrated curriculum. Some reported having no access to internet connections. Related factors such as malfunctioning audios and lack of extension cords served as challenges to implementing the
curriculum as desired. Classroom management, along with testing schedules was also reported as challenges to teaching the curriculum effectively. The facilitators reported that supports in the form of technological assistance, actual technological equipment including smart boards, projectors, laptops, and internet. More PD workshops, administrative backing, and class management strategies would be helpful to the teachers.

Concepts which had been taught in the PD workshops were evident in classrooms observed. These included students being engaged using technology. Students also worked in small cooperative groups just as the teachers had done in their workshops. The small groups allowed more children to participate versus one speaker addressing an entire room. The teachers also created an ambiance for “Safe Spaces” in order for the students to feel comfortable discussing sensitive topics. The facilitators observed that the teachers utilized the troubleshooting tips, best practices and additional resources to which they had been exposed to in their professional development workshops.

Research Question 2: To what extent did the professional development lead to increased teacher knowledge and changes to their teaching practices?

This question probed the extent that the professional development led to increased teacher knowledge and changes to their teaching practices. In order to answer this question, first hand information was elicited from each of the teachers who participated in the Get Healthy, Get Smart! workshops. The data collected from this study supports the research which states that best professional programs will help teachers and their respective students feel attitudinally better about themselves, the school experience, and about the subject area for which the program is designed (Shaha et al, 2004). The majority of teachers who were engaged in the Get Healthy, Get
Smart! workshops agreed and strongly agreed that their experiences were enjoyable and that it met their expectations. In addition to the enjoyment factor of the workshop, practicality was also examined. Most of the teachers reported agreement and strong agreement that the workshops presented them with useful materials for their classrooms and provided them with new approaches.

Increased knowledge is one of the key factors which distinguish the effectiveness of professional development. Most of the teachers surveyed agreed and strongly agreed that their experiences with the Get Healthy, Get Smart! workshops advanced their understanding of the health standards as well as improved their knowledge about curriculum integration and its implementation. In addition to content and pedagogical knowledge, the majority of teachers surveyed also believed that their workshop experiences advanced their understanding of their students' personal development and their own use of technology. When they took the lessons back to their classrooms, they also focused on their students' personal growth in addition to their academic growth. This correlates with the research which assets that high quality teaching fosters cognitive, behavioral and social-emotional skills and has both interpersonal and instructional features (Domitrovich, 2009). Curriculum linked professional development focuses specifically on how to enact pedagogical strategies, use material and administer assessment associated with a particular curricula if far more effective than workshops which focus on general pedagogical strategies (Cohen & Hill, 2001).

The two elements that had the greatest effect on the teachers' knowledge and skills and led to changes in instructional practices were reported to be focus on content knowledge and coherence. To be effective, professional development must provide teachers with a way to directly apply what they learn to their teaching (Resnick, 2005). The importance of knowledge of
subject matter was noted by one facilitator who asserted that teachers should spend additional in-depth time of the subject matter.

It is also essential that teachers feel supported as they embark on implementing the concepts they learn from a professional development workshop. Research pertaining to the effectiveness of professional development advocates the importance of demonstrating efficiency and leveraging additional resources (Professional Development, 2004). If teachers do not feel they have support then it will be difficult to make changes in their teaching practices. Almost all of the teachers surveyed felt greatly supported by Bank Street College and the Urban Technology staff. There was only one teacher who reported not feeling support by the college. In addition, the majority of teachers surveyed reported feeling supported by the regular classroom teachers who were not involved in the workshop. Supports which come in the form of resources are also imperative for teachers to implement a new program. If one has no resources, it will be nearly impossible to adhere to the instructions of a workshop even with the best attitude or intentions. Such resources as technology were available for implementation by the majority of teachers surveyed. Most also felt that any problems which arose were quickly resolved and that the resources they received such as texts and videos were adequate to implement the Get Healthy, Get Smart! integrated curriculum. Overall the teachers were receptive to the workshops because of the help they received from the facilitators. This supports the research which affirms that staffing professional development experiences appropriately is central to their success and the kinds of activities that teachers engage in distinguishes specific professional development experiences (Borasi & Fonzi, 2001, p. 29).
Research Question 3: What are teachers' perceptions regarding the most successful aspects of the professional development program?

This research question inquired about the teachers' perceptions regarding the most successful aspects of the Get Healthy, Get Smart! professional development program. It was important to understand the aspects of the program which the teachers liked most because, "to effect lasting educational change, teachers must come together around common interests (Goodson, 2006). Most of the teachers surveyed reported having a lot of confidence and the remaining had some that they could effectively apply the new knowledge gleaned from the workshops in their classrooms. No one reported having no confidence in the program. In addition, more than 75% of the teachers believed that their involvement with the Get Healthy, Get Smart! program would likely have at least some or a lot of positive and lasting influences on their classroom instruction.

The teachers also reported their views on their students' motivation and excitement about various aspects of the Get Healthy, Get Smart! program. The majority of teachers perceived that most to all of their students were excited about wearing the pedometers and about having lunch at the governor's mansion. Ninety five percent of the teachers also reported that some to all of their students were motivated while working with the YLA modules as well as by the pep rally. This data supports the research which affirms that best professional development programs help teachers and their respective students feel attitudinally better about themselves, the school experience and about the subject area for which their program is designed (Shaha et al, 2004).

Additional successful aspects of the Get Healthy, Get Smart! program included the teachers' observations of the changes students made as a result of being exposed to the GHGS!
integrated curriculum. The majority of teachers reported that they saw positive changes in their students’ abilities to be aware of how their peers and the media influenced feelings and attitudes, to analyze the influence of culture and media on health attitudes and behaviors, to understand the benefits of a healthy lifestyle and the consequences of an unhealthy one and with exercise. Several although not most teachers also reported improvements in the students’ motivation, ability to stay on task, leaning to work toward healthy relationships, dealing with problem solving issues regarding relationships, self esteem, academic behaviors and getting along with each other.

Before the integrated curriculum was implemented, the teachers reported varying degrees of student problems with the students’ health and wellness. The majority of teachers surveyed acknowledged that there were at least serious to somewhat serious problems regarding the following issues; obesity in school, disruptive behaviors in class, physical fighting, verbal harassment or bullying, cutting classes, student depression to other mental health problems, school truancy, lack of understanding for healthy eating and regular exercise, and motivation.

The teachers noticed the negative influences which had been reduced as a result of the Get Healthy, Get Smart! curriculum and those positive changes that had also resulted. The majority of teachers surveyed reported that the following positive changes occurred among their students; increased exercising, awareness of how peers and the media influence their feelings and attitudes, ability to analyze the influence of culture and media on health attitudes and behaviors and understanding the benefits of a healthy lifestyle and the consequences of an unhealthy one.

Having the teachers contribute feedback about the students and their activities let them know that their observations were important. This corresponds with the research which asserts that teacher
involvement in implementation, new knowledge feedback and recognition of their everyday working context is important to professional development (MacDonald, 2007).

Research Question 4: To what extent did the professional development of an integrated curriculum have an impact on students' health attitudes and behaviors?

The fourth research question asked to what extent the professional development of the integrated curriculum had an impact on student’s health attitudes and behaviors. Focusing on the results helped ensure that the processes selected for professional development were not only enjoyable but also productive (Collaborative professional learning in school and beyond: A toolkit for New Jersey educators) The data collected from this study strongly supports current research which affirms that the value of professional development programs should measure the impact they ultimately produce for students (Shaha et al., 2004). Best programs prepare teachers to be more impactful for students, measured in improvements in student learning results and student attitudes (Shaha et al., 2004). The 147 students who completed the baseline assessment and the post tests after the intervention showed overall improvements in both their health and nutrition knowledge and attitudes. The pre and post tests were deemed important in measuring student improvement because determining how much knowledge participants gain from a presentation is impossible to measure without first determining their preexisting knowledge of the subject (Siegel & Yates, 2007). More students were able to deal positively and effectively with peer pressure. For example more students felt comfortable asserting their feelings in front of their peers less reported following the crowd, and smoking cigarettes. The pre and post test data demonstrated that the students’ attitudes regarding these topics were better after being exposed to
the Get Healthy, Get Smart! integrated curriculum as compared to their results before the treatment.

In addition to their attitudes about peer pressure, the students' attitudes and exercise habits also showed improvement after experiencing the integrated curriculum. More students decided that they would exercise more if their parents did. Eating healthy and exercising also became more of a priority because a larger number of students reported exercising for at least half an hour as compared to when they took the pretests. More students also asked their parents about healthy eating and exercise. Further more, more students increase their intake of fruits and vegetables and in turn reduced the amount of times they ate at a fast food restaurant. The students placed significantly more importance on the connection between what they at and their future health after teachings compared to when they were first surveyed.

The students' attitudes in relation to their self-esteem demonstrated several improvements. More students reported having someone to confide in when asked if they knew at least one adult with whom they could talk to about their problems on their posttests. Also, when asked if they could do things as well as others and if they had enough control over the way their lives were going, the students reported more control and aptitude after being taught from the modules. More students also equated good luck as being less important than hard work or success after being exposed to the teachings in the modules. The results remained the same when the students were asked if they knew adults who cheered them on. When asked if they had more self-confidence than their counterparts, an increased number of students reported having more self-confidence than they had previously.

The students' attitudes about their families also showed improvements. With regard to family relationships, the students' family arrangements changed within the twelve months that
they had been exposed to the Get Healthy, Get Smart! program. More students reported a slight increase in having a mother figure. The results of their father figures remained the same. The students reported their information about the levels of closeness with their mothers and fathers. They then experienced less closeness with each parent nearly a year later with. Although there was a decrease in the levels of closeness, the figures were not large enough to be significant.

Although the students felt less closeness with their fathers, they spent more time with them. The amount of time spent with their fathers increased significantly. The amount of time the students spent with their mothers also increased significantly. In addition, the students also reported an increase in their ease in discussing things that happened in schools with their moms as well as with their dads. Even though the students found it easier to discuss school events with their fathers, they did not feel as comfortable, discussing their personal lives with their fathers. Fewer students reported talking to their fathers about their personal lives during the posttest. In contrast, an increased number of students spoke to their mothers about events and issues in their personal lives after they had been taught from the modules. Although the levels of closeness decreased between parent and child, most of the students’ interactions and communications with their parents increased after being taught the lessons from the Get Healthy, Get Smart! modules. Communication is important because the majority of research conducted in Euro American and African American households suggest that communication about sex translates into safer adolescent sexual behavior. Adolescents who talk frequently about sex with their parents are less likely to be sexually active, have fewer sexual partners, report increased condom used once sexually active, and are more likely to talk about sex with their sexual partners (Guzman, et al, 2003). These studies suggest that adolescent communication about sex helps with safer adolescent sexual behavior.
The Locus of Knowledge portion of the questionnaire assessed the students' knowledge of nutritional and sexual health. Compared to the pretests the students showed improvements on the posttests for the majority of questions, more students answered 10 of the questions with more accuracy during the post tests compared with the pretest. Four questions were answered with less accuracy during the post test as compared with the pretest, and one question's result remained consistent. These results are consistent with research which asserts that students do as well and often better on traditional measures of school achievement when the curriculum moves in the direction of integration (Beane, 1995).

The students showed improvements in their aspirations. While many had a precise picture of what they wanted to be in the future during the pretest, even more had a clearer picture after being taught from the modules. Some students also showed uncertainty when they were first asked what they wanted out of life and about their long range goals. When they were asked these questions the second time after treatment, there were less students who answered that they did not know what they wanted out of life or did not know what their long range goals were.

**Educational Implications**

The increase in HIV infection among youth has made this disease the fifth leading cause of death among 15 to 24 year olds (CDC, 2006) and the seventh leading cause of death among children (Stine, 2003). In addition, the explosion of childhood obesity also indicates a need for educators to be properly trained to help students counter and prevent these diseases. In order to be effective, school personnel must be properly trained so they can implement the necessary teaching to their students.
This study provided an overview of the impact that a professional development program had on the teachers it trained. The teachers in turn utilized their training received to implement a newly developed integrated curriculum. Overall, the teachers’ participation in their workshops was determined to have a positive effect on their teachings and interactions with the students regarding the GHGS! curriculum. The teachers were shown to have utilized the concepts they learned in their workshop and felt increased confidence using the technology required to implement the curriculum. There were also additional supports needed regarding technology and administrative help. Additional positive effects of the teachers’ trainings included most of the teachers feeling confident that they could effectively apply the new knowledge they had learned and that their involvement with GHGS! would have positive and lasting impression on their instruction.

This study also demonstrated the positive effects that the GHGS! program had on the students. An increased number of students learned to deal better with peer pressure after being taught from the integrated curriculum compared to before the teachings. More students also showed improvements in their exercising and healthy eating habits as a result of the GHGS! program. Students’ self esteem and sexual health knowledge also increased.

Providing trainings for school personnel regarding sexual and nutritional health is necessary to promote optimum health. Education has long been identified as the key to prevention and is most effective if started at an early age (Ballard, et al., 1990). Also, school based health programs have been promoted as an efficient method to help prevent risk behaviors that lead to HIV infection (CDC, 1996 as cited in Markham et al, 2000). Providing trainings for school personnel regarding sexual and nutritional health is necessary to promote optimum health. Education has long been identified as the key to prevention and is most effective if started at an
early age (Ballard, et al., 1990). Also, school based health programs have been promoted as an efficient method to help prevent risk behaviors that lead to HIV infection (Markham et al, 2000)

Conclusions

In conclusion, an integrated preventive program such as Get Healthy, Get Smart! is vital for helping to prevent serious teens' health issues. Adolescents who are sexually active represent the highest group of individuals with STDs in the United States and they are also the least likely to seek and receive health care than in any other age group (Sexually Transmitted Disease Surveillance, 2001). Also dietary patterns developed during adolescence may contribute to obesity, eating disorders and also may increase the risk for several chronic diseases later in life (Neumark-Sztainer et al, 2002). It compels educators to provide services which help these adolescents because most children spend much time in schools.

Conditions such as obesity, poor nutrition and physical inactivity are not conditions likely to correct themselves as adolescents mature. An overweight youth has less than a 50% chance of reaching a normal weight as an adult (Nevarez, 2000). Adolescents who utilize preventative health services such as preventative health education have been shown to engage in fewer risk behaviors and more health promoting behaviors and to be in better health (Van Devanter, et al, 2005).

Recommendations for Future Research

It is recommended that educators be encouraged to participate in trainings which continue to foster the development and well being of children, so it can be integrated with academic
learning. Support for HIV/AIDS and nutritional education is crucial. Administrators should continue to provide opportunities for teachers to fully educate their students. They should also help increase staff technological support in order to maximize the effects of a 21st century curriculum. Literature on professional development emphasizes that improved student achievement be the goal of all professional development programs (Goals 2000, 2001).

A future research project should examine the long term effects of those students who participated in the Get Healthy, Get Smart! curriculum integration program compared to students in the same schools who did not participate in the program. The students' exercise and eating habits along with the extent that they are disease free should be compared with peers who did not participate in a similar intervention program.

In addition, data should also be documented about the BMI of those teachers who instructed the students in the GHGS! program. No data was about the teachers' weights or physical conditions were recorded during this study. Since teachers play an important role in the lessons that they impart to their students, comparisons about the students' progress and achievement, regarding exercise and nutrition should be examined in correlation with the teachers' BMI.

Overall the students who participated in the Get Healthy, Get Smart! integrated curriculum showed improvements in their health and nutritional knowledge and attitudes. This study should also be replicated in other states since childhood obesity is so prevalent and its effects are detrimental. Efforts should continue to be devoted to improving the health of adolescents in educational, informative and interesting ways such as those the Get Healthy, Get Smart! integrated curriculum provided.
References


Evaluation professional development- IMSP Collaborative Meeting #3; Core needs assessments and evaluation designs (2007). Springfield, IL.


development for Mathematics and Science education: A synthesis of standards. NISE
Brief, 1(1), 1-8.


27(6), 298-311.


Education & Career Connections, (72)8.

choices. Obesity, Fitness & Wellness Week. 1532.

Journal, 327(7423), 1071-1073.

in a multicomponent, school-based HIV/STD prevention program for inner city
adolescents. AIDS Education and Prevention, 12(5), 442-455.


McComas, W.F. (2009). Thinking, teaching, and learning science outside the boxes. The Science
Teacher, 24-29.


Rationale, goals and objectives. Oxford University Press. US.


Neumark-Sztainer, D., Story, M., Hannan, P.J., MStat., & Croll, J. (2002). Overweight status and


Penuel, W., Fishman, B., Yamaguchi, R., & Gallagher (2007), What makes professional development effective? Strategies that foster curriculum implementation, 44 (4).


and other bloodborne infections.


APPENDIX A. GET HEALTHY GET SMART! TEACHER SURVEY

TEACHER SURVEY
Get Healthy Harlem!
May 2008 Teacher Survey

As part of Get Healthy Harlem's evaluation, we are surveying participating science teachers about instruction using the Youth Leadership Academy Curriculum and student behaviors. We'd like to ask you some questions about the teaching and learning environment in your classes.

Please answer these questions as openly and honestly as you can. Your individual responses will remain confidential. Results of the teacher survey will be reported only in aggregate across the participating Get Healthy Harlem! schools. Thank you for your feedback.
**Directions:** Please circle the number that best matches your feelings about each statement or question.

### 6. My professional development experience in GHH!

- **a.** was enjoyable: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- **b.** was time well spent: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- **c.** provided me with new approaches: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- **d.** provided me with materials that were useful in my classroom: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- **e.** met my expectations: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |

### 7. GHH! has ...

- Advanced my understanding of the health standards: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- Improved my knowledge about curriculum integration: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- Advanced my understanding of students' personal development: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- Advanced my understanding on the use of technology during instruction: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- Improved my knowledge on how to integrate health with the science curriculum that I teach: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |

### 8. I felt ...

- supported by Bank Street: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- supported by Urban Technology Staff: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- supported by the regular classroom teachers involved with Healthy Steps: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- supported by my administration: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- the technology was available for me to implement YLA: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- problems that arose were quickly resolved: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |
- resources were adequate to implement GHH!: |
  | Strongly Agree | Agree | Disagree | Strongly Disagree |
  | 1 | 2 | 3 | 4 |

### 9. How confident are you that ...

- Not at All | Very Little | Some | A Lot

---

**Today's Date:** 07/01/2006  
**School Name:** KAPPA IV  
(please print)  

1. Gender: ☐ Male  ☑ Female  
2. Ethnicity: ☐ African American  ☐ Caucasian  ☐ American Indian, Eskimo, or Aleut  ☐ Asian or Pacific Islander  ☐ Hispanic  ☐ Other  
3. Grade(s) you work with: (check ALL that apply)  
   ☐ 5  ☐ 6  ☐ 7  ☐ 8  
4. Number of years you have been at this school:  
   1-5  ☐ 6-10  ☐ 11-15  ☐ 16 or more  
5. Number of years you have been a teacher:  
   1-5  ☐ 6-10  ☐ 11-15  ☐ 15 or more
a. you can effectively apply the new knowledge and skills in your classroom

b. your involvement with GHH! is likely to have a positive and lasting influence on your classroom instruction

10. Based on your experience, how many students at this school...

<table>
<thead>
<tr>
<th></th>
<th>Nearly All or All</th>
<th>Most</th>
<th>Some</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. were excited about wearing the pedometers?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. were motivated while working with the YLA modules?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c. were excited about having lunch at the governor's mansion?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d. were motivated by the pep rally?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

11. Before GHH! how serious a problem was...

<table>
<thead>
<tr>
<th></th>
<th>Not at all Serious</th>
<th>Somewhat Serious</th>
<th>Very Serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. obesity in this school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>b. peer pressure?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>c. disruptive student behavior in class?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>d. physical fighting between students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>e. verbal harassment or bullying among students?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>f. student use of alcohol in this school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>g. gang-related activity in this school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>h. student use of cigarettes in this school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>i. student use of drugs in this school?</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>j. cutting class?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>k. student depression or other mental health problems?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>l. school truancy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>m. student underachieving?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>n. students lack of understanding of eating healthily?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>o. students appreciation of the value of regular exercise?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>p. Student motivation?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

12. In the past year, which modules did you implement? (check ALL that apply)

- Personal Relationships
- Healthy Habits
- Self Discovery

13. What kinds of changes have you seen in the students as a function of GHH!? (check ALL that apply)
Improvement in motivation
Improvement in staying on task
Improvement in exercising
Improvement in learning to work towards fostering healthy relationships
Improvement in awareness of how peers and the media influence one’s feelings and attitudes
Improvement in problem-solving issues regarding relationships
Improvement in the ability to analyze the influence of culture and media on health attitudes and behavior
Improvement in understanding the benefits of a healthy lifestyle and the consequences of an unhealthy one
Improvement in academic behaviors
Improvement in self esteem
Improvement in getting along with each other

14. What suggestions do you have about improving the project?

15. What are your general feelings about Get Healthy Harlem?

16. What supports would you need next year?

17. What challenges (if any) did you face in integrating GHH with the science curriculum that you are responsible for teaching?

Thank you for your time!
Bank Street Facilitators Survey

1. Please describe the skills or activities you looked for from the teachers when visiting the targeted classroom in each school.

2. Please describe the skills or activities you looked for from the students when visiting the targeted classrooms in each school.

3. What improvements in implementing the curriculum have you noticed among the classrooms?

4. When visiting the schools, what were some of the challenges that the teachers showed when implementing the curriculum?

5. What additional support do you think the teachers need when integrating the curriculum?

6. Which concepts taught in the professional development workshops were evident in the classrooms observed?
Appendix C

Bank Street College Professional Development Facilitators' Survey

1. What were the program’s goals for teachers?

2. What strategies were used to deepen the teachers’ knowledge of the concepts in the health modules?

3. How was the training structured to encourage and increase communication and collaboration among teachers to ensure sustained attention to critical topics?

4. What strategies did you use to encourage teachers who may be resistant to teaching some of the concepts in the modules?

5. How did you keep the momentum of the workshops going; prevent stagnancy, rein in digressions?

6. How did you ensure the participants and curriculum were in sync?

7. How did you determine the extent to which you achieved your desired outcomes?

8. On a scale of 1-10, how sufficient did the content of the program accomplish its goals? Why did you give this rating?

9. On a scale of 1-10, what do you rate the teachers’ background knowledge and experiences needed to implement the program? Why do you think this is so?

10. How do you assess to what degree and how well the teachers are using the content of this program to achieve its goals?
PRIVACY

We want you to know that:

1. Your answers to these questions will help us learn what people your age know, think, and do.

2. You may skip any questions you do not wish to answer. But we hope that you will answer as many questions as you can.

3. Your answers will be combined with those of other students. We will keep your answers private.
ABOUT YOU

These questions ask about you.

1.1 How old are you?

   MARK ONE
   1.☐ 11 years old or younger
   2☐ 12 years old
   3☐ 13 years old
   4☒ 14 years old or older

1.2 Are you a girl or boy?

   1☐ Girl
   2☒ Boy

1.3 Are you of Hispanic or Latino origin?

   1☐ Yes
   0☒ No

1.4 Mark the box or boxes to describe your race.

   MARK ONE OR MORE
   1☐ White
   2☒ Black or African American
   3☐ Asian
   4☐ Native Hawaiian or Other Pacific Islander
   5☐ American Indian or Alaska Native
PEER PRESSURE

This set of questions is about how much you go along with your friends or other kids.

2.1 I think it's more important to be who I am than to fit in with the crowd.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true

2.2 I would do something that I know is wrong just to stay on my friends' good side.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true

2.3 I go along with my friends just to keep them happy.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true

2.4 It's pretty hard for my friends to get me to change my mind.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true

2.5 I will say my true opinion in front of my friends, even if I know they will make fun of me because of it.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true

2.6 I take more risks when I am with my friends than I do when I am alone.
   0 □ Not at all true
   1 □ Not very true
   2 □ Sort of true
   3 □ Very true
ABOUT YOUR EATING HABITS

Please indicate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with the following statements:

3.1 What I eat now is important to my health in the future:

- □ Strongly agree
- □ Somewhat agree
- □ Somewhat disagree
- □ Strongly disagree

3.2 What someone eats can make a big difference in their chance of getting a disease, like diabetes or heart disease:

- □ Strongly agree
- □ Somewhat agree
- □ Somewhat disagree
- □ Strongly disagree

3.3 Smoking a couple of cigarettes a day isn't really a problem because you can always quit later:

- □ Strongly agree
- □ Somewhat agree
- □ Somewhat disagree
- □ Strongly disagree

3.4 If all of my friends started smoking cigarettes, I would start smoking too:

- □ Strongly agree
- □ Somewhat agree
- □ Somewhat disagree
- □ Strongly disagree

3.5 If my parents exercised with me, I might exercise more often:

- □ Strongly agree
- □ Somewhat agree
- □ Somewhat disagree
- □ Strongly disagree
3.6 Exercising and healthy eating is important to my family:

☐ Strongly agree
☐ Somewhat agree
☐ Somewhat disagree
☐ Strongly disagree

3.7 How many servings of fruits and vegetables do you eat everyday? Count each item as one(1).

☐ None (0)
☐ One (1)
☐ Two (2)
☐ Four or more (4+)

3.8 How many times per week do you exercise for at least 30 minutes?

☐ None (0)
☐ One (1)
☐ Two (2)
☐ Four or more (4+)

3.9 How many glasses or servings of milk do you think you should drink each day for good health?

☐ None (0)
☐ One (1)
☐ Two (2)
☐ Four or more (4+)

3.10 In the past week, how many times did you eat at a fast food restaurant such as McDonalds, Burger King, Wendy’s, KFC and so on?

☐ None (0)
☐ One (1)
☐ Two (2)
☐ Four or more (4+)

3.11 About how many times each week should your exercise or be physically active for at least 30 minutes?

☐ None (0)
☐ One (1)
☐ Two (2)
☐ Four or more (4+)
WHAT YOU KNOW

For each of the following statements, tell us if you believe it is true, false or if you do not know.

4.1 On the week-ends, I would rather play outdoors than watch TV.
   1 □ True
   2 □ False

4.2 I think that exercise is good for my health when I am older, but not now.
   1 □ True
   2 □ False

4.3 Calories make you lose weight.
   1 □ True
   2 □ False

4.4 Calories are the body’s source of energy.
   1 □ True
   2 □ False

4.5 Some diseases can be prevented by having a healthy diet and exercising regularly.
   1 □ True
   2 □ False
   □ Don't Know

4.6 Ninety-nine percent of people who are HIV positive are either gay or drug addicts.
   1 □ True
   2 □ False
   □ Don't Know

4.7 You can't have HIV without having AIDS.
   1 □ True
   2 □ False
   □ Don't Know

4.8 HIV stands for Human Immunodeficiency Virus.
   1 □ True
   2 □ False
   □ Don't Know

4.9 You can contract HIV by sitting on toilets.
   1 □ True
   2 □ False
   □ Don't Know
4.10 Both humans and animals can get HIV.
1 True
2 False
□ Don't Know

4.11 AIDS stands for Acquired Immune Deficiency Syndrome.
1 True
2 False
□ Don't Know

4.12 If you abstain from sexual intercourse you have a 50% chance of contracting the virus that causes HIV.
1 True
2 False
□ Don't Know

4.13 The most widespread sexually transmitted disease in the United States is HPV.
1 True
2 False
□ Don't Know

4.14 If you are at risk for sexually transmitted disease you should be tested at least every two years.
1 True
2 False
□ Don't Know

4.15 If you already have a sexually transmitted disease then you have an increased risk of contracting another one.
1 True
2 False
□ Don't Know

4.16 Every year 3 million teens become infected with a sexually transmitted disease.
1 True
2 False
□ Don't Know

4.17 Condoms have very little use in preventing the spread of HIV.
1 True
2 False
□ Don't Know

4.18 If you have a sexually transmitted disease you will definitely know.
1 True
2 False
□ Don't Know
Here are some things students sometimes think about themselves.

Please tell us how much you agree or disagree with each one.

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>AGREE A LOT</th>
<th>AGREE A LITTLE</th>
<th>DISAGREE A LITTLE</th>
<th>DISAGREE A LOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I don't have enough control over the way my life is going.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>b. For me, good luck is more important than hard work or success.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>c. I can't do things as well as most other people.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>d. My plans hardly ever work out.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>e. When I make plans, I know I can make them work.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>f. Chance and luck are important for what happens in my life.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>g. I can do just about anything I really set my mind to.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
</tbody>
</table>

What do you think about each of these statements?

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I know at least one adult I could talk to about my problems.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
<tr>
<td>b. I know adults who often cheer me on.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
<td>4 □</td>
</tr>
</tbody>
</table>

5.1 Think about your friends in the group you hang out with. Do you have more self-confidence than they do, less, or about the same amount?

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ More confidence</td>
</tr>
<tr>
<td>□ Less confidence</td>
</tr>
<tr>
<td>□ About the same</td>
</tr>
<tr>
<td>□ Don't know</td>
</tr>
</tbody>
</table>
ABOUT YOUR FAMILY

6.1 Who do you live with now?

MARK ALL THAT APPLY
☐ Mother (including stepmother, adoptive or foster mother)
☐ Father (including stepfather, adoptive or foster father)
☐ Other adult relative(s)
☐ Other adult(s) I am not related to
☐ I do not live with any adults

6.2 Please mark which of the following is true for you.

MARK ONE
☐ I have a mother or someone who is like a mother to me.
☐ I do not have a mother or someone who is like a mother to me. → GO TO 6.6

6.3 Answer the next few questions about your mother or someone who is like a mother to you.

How close do you feel to her?

MARK ONE
☐ Not very close
☐ A little close
☐ Pretty close
☐ Very close

6.4 Does she spend enough time with you?

MARK ONE
☐ Not much time, but I don’t want more.
☐ Not much time. I wish she spent more time with me.
☐ She spends enough time with me.

6.5 What do you think about these statements? They are about your mother or the person who is like a mother to you. For each, mark how true the statement is:

MARK ONE
ANSWER
FOR EACH

<table>
<thead>
<tr>
<th>MOSTLY TRUE</th>
<th>SOMETIMES TRUE</th>
<th>HARDLY EVER TRUE</th>
</tr>
</thead>
</table>
a. It is easy to talk with her about things that happen in school. ..............
☐ 2 3
b. It is easy to talk with her about things that happen in my life. ..............
☐ 2 3

6.6 Please mark which of the following is true for you.

MARK ONE
☐ I have a father or someone who is like a father to me.
☐ I do not have a father or someone who is like a father to me. → GO TO 6.10

6.7 Answer the next few questions about your father or someone who is like a father to you.

How close do you feel to him?

MARK ONE
☐ Not very close
☐ A little close
☐ Pretty close
☐ Very close

6.8 Does he spend enough time with you?

MARK ONE
☐ Not much time, but I don’t want more.
☐ Not much time. I wish he spent more time with me.
☐ He spends enough time with me.
6.9 What do you think about these statements? They are about your father or the person who is like a father to you. For each, mark how true the statement is:

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>MOSTLY TRUE</th>
<th>SOMETIMES TRUE</th>
<th>HARDLY EVER TRUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. It is easy to talk with him about things that happen in school.</td>
<td>1square</td>
<td>2square</td>
<td>3square</td>
</tr>
<tr>
<td>b. It is easy to talk with him about things that happen in my life.</td>
<td>1square</td>
<td>2square</td>
<td>3square</td>
</tr>
</tbody>
</table>

6.10 For each of the following, does your family have strict rules, some rules, or no rules?

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>STRICT RULES</th>
<th>SOME RULES</th>
<th>NO RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The people I hang around with.</td>
<td>1square</td>
<td>2square</td>
<td>3square</td>
</tr>
<tr>
<td>b. Dating and going to parties with boys or girls.</td>
<td>1square</td>
<td>2square</td>
<td>3square</td>
</tr>
<tr>
<td>c. Telling my parents where I am.</td>
<td>1square</td>
<td>2square</td>
<td>3square</td>
</tr>
</tbody>
</table>

Think about your parent(s) or the people who are like parent(s) to you.

6.11 Think about the past year. How often did you ask a parent about healthy eating and exercise?

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0square</td>
</tr>
<tr>
<td>1square</td>
</tr>
<tr>
<td>2square</td>
</tr>
<tr>
<td>3square</td>
</tr>
</tbody>
</table>
ABOUT THE FUTURE

The next question asks about your future.

Here are some things that people your age might say when they think of the future.

In general, do you agree or disagree with each statement?

MARK ONE ANSWER FOR EACH

a. I don't know what I want out of life. .................................................. ☐ ☐

b. I have a clear picture of what I'd like to be doing in the future. ............... ☐ ☐

c. I don't know what my long-range goals are. ......................................... ☐ ☐

The next questions are about things that some teens think about or do.

Please remember that all of your answers will be kept private.

7.1 Teens often feel pressure from other people.

How much pressure have you personally felt to do things you might get in trouble for?

MARK ONE

☐ A lot
☐ Some
☐ Not much
☐ None
☐ Don't know

7.2 How much would you say that the following statement is true about you?

I can say “No” to activities that I think are wrong.

MARK ONE

☐ Very much like me
☐ Mostly like me
☐ A Little like me
☐ Not at all like me
☐ Don't know
7.3 How often would you say that the following statement is true about you?

I have learned to stay away from people who might get me in trouble.

**MARK ONE**

1 □ Almost always
2 □ Usually
3 □ Some of the time
4 □ Almost never
7 □ Don’t know

7.4 During the past month, how often have you smoked cigarettes?

**MARK ONE**

6 □ Not at all
1 □ Only a few times
3 □ 1 or 2 times a week
4 □ Several times a week or more

7.5 How many of your five closest friends drink alcohol, like beer, wine, or liquor?

**MARK ONE**

6 □ None of them
1 □ One or two of them
2 □ Three or four of them
3 □ All of them

7.5 How often do you drink alcohol, like beer, wine, or liquor?

**MARK ONE**

6 □ I never have
1 □ Only a few times ever
3 □ 1 or 2 times a month
4 □ A few times a week

7.7 How many of your five closest friends do you believe eat healthy?

**MARK ONE**

0 □ None of them
1 □ One or two of them
2 □ Three or four of them
3 □ All of them

7.8 How many of your friends exercise at least once a week?

**MARK ONE**

0 □ None of them
1 □ One or two of them
2 □ Three or four of them
3 □ All of the
ABOUT YOU

These questions ask about you.

1.1 How old are you?

MARK ONE
☐ 11 years old or younger
☐ 12 years old
☐ 13 years old
☒ 14 years old or older

1.2 Are you a girl or boy?

☐ Girl
☒ Boy

1.3 Are you of Hispanic or Latino origin?

☐ Yes
☒ No

1.4 Mark the box or boxes to describe your race.

MARK ONE OR MORE
☐ White
☒ Black or African American
☐ Asian
☐ Native Hawaiian or Other Pacific Islander
☐ American Indian or Alaska Native
PEER PRESSURE

This set of questions is about how much you go along with your friends or other kids.

2.1 I think it's more important to be who I am than to fit in with the crowd.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true

2.2 I would do something that I know is wrong just to stay on my friends' good side.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true

2.3 I go along with my friends just to keep them happy.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true

2.4 It's pretty hard for my friends to get me to change my mind.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true

2.5 I will say my true opinion in front of my friends, even if I know they will make fun of me because of it.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true

2.6 I take more risks when I am with my friends than I do when I am alone.

☐ Not at all true
☐ Not very true
☐ Sort of true
☐ Very true
ABOUT YOUR EATING HABITS

Please indicate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with the following statements:

3.1 What I eat now is important to my health in the future:

0 □ Strongly agree
1 □ Somewhat agree
2 □ Somewhat disagree
3 □ Strongly disagree

3.2 What someone eats can make a big difference in their chance of getting a disease, like diabetes or heart disease:

0 □ Strongly agree
1 □ Somewhat agree
2 □ Somewhat disagree
3 □ Strongly disagree

3.3 Smoking a couple of cigarettes a day isn't really a problem because you can always quit later:

0 □ Strongly agree
1 □ Somewhat agree
2 □ Somewhat disagree
3 □ Strongly disagree

3.4 If all of my friends started smoking cigarettes, I would start smoking too:

0 □ Strongly agree
1 □ Somewhat agree
2 □ Somewhat disagree
3 □ Strongly disagree

3.5 If my parents exercised with me, I might exercise more often:

0 □ Strongly agree
1 □ Somewhat agree
2 □ Somewhat disagree
3 □ Strongly disagree
3.6 Exercising and healthy eating is important to my family:

□ Strongly agree
□ Somewhat agree
□ Somewhat disagree
□ Strongly disagree

3.7 How many servings of fruits and vegetables do you eat everyday? Count each item as one (1).

□ None (0)
□ One (1)
□ Two (2)
□ Four or more (4+)

3.8 How many times per week do you exercise for at least 30 minutes?

□ None (0)
□ One (1)
□ Two (2)
□ Four or more (4+)

3.9 How many glasses or servings of milk do you think you should drink each day for good health?

□ None (0)
□ One (1)
□ Two (2)
□ Four or more (4+)

3.10 In the past week, how many times did you eat at a fast food restaurant such as McDonalds, Burger King, Wendy’s, KFC and so on?

□ None (0)
□ One (1)
□ Two (2)
□ Four or more (4+)

3.11 About how many times each week should your exercise or be physically active for at least 30 minutes?

□ None (0)
□ One (1)
□ Two (2)
□ Four or more (4+)
WHAT YOU KNOW

For each of the following statements, tell us if you believe it is true, false or if you do not know.

4.1 On the week-ends, I would rather play outdoors than watch TV.
   1 □ True
   2 □ False

4.2 I think that exercise is good for my health when I am older, but not now.
   1 □ True
   2 □ False

4.3 Calories make you lose weight.
   1 □ True
   2 □ False

4.4 Calories are the body’s source of energy.
   1 □ True
   2 □ False

4.5 Some diseases can be prevented by having a healthy diet and exercising regularly.
   1 □ True
   2 □ False

4.6 Ninety-nine percent of people who are HIV positive are either gay or drug addicts.
   1 □ True
   2 □ False
   □ Don't Know

4.7 You can't have HIV without having AIDS.
   1 □ True
   2 □ False
   □ Don't Know

4.8 HIV stands for Human Immunodeficiency Virus.
   1 □ True
   2 □ False
   □ Don't Know

4.9 You can contract HIV by sitting on toilets.
   1 □ True
   2 □ False
   □ Don't Know
4.10 Both humans and animals can get HIV.
1 True
2 False
3 Don’t Know

4.11 AIDS stands for Acquired Immune Deficiency Syndrome.
1 True
2 False
3 Don’t Know

4.12 If you abstain from sexual intercourse you have a 50% chance of contracting the virus that causes HIV.
1 True
2 False
3 Don’t Know

4.13 The most widespread sexually transmitted disease in the United State is HPV.
1 True
2 False
3 Don’t Know

4.14 If you are at risk for sexually transmitted disease you should be tested at least every two years.
1 True
2 False
3 Don’t Know

4.15 If you already have a sexually transmitted disease then you have an increased risk of contracting another one.
1 True
2 False
3 Don’t Know

4.16 Every year 3 million teens become infected with a sexually transmitted disease.
1 True
2 False
3 Don’t Know

4.17 Condoms have very little use in preventing the spread of HIV.
1 True
2 False
3 Don’t Know

4.18 If you have a sexually transmitted disease you will definitely know.
1 True
2 False
3 Don’t Know
Here are some things students sometimes think about themselves.

Please tell us how much you agree or disagree with each one.

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>AGREE A LOT</th>
<th>AGREE A LITTLE</th>
<th>DISAGREE A LITTLE</th>
<th>DISAGREE A LOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I don’t have enough control over the way my life is going.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. For me, good luck is more important than hard work or success.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c. I can’t do things as well as most other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d. My plans hardly ever work out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>e. When I make plans, I know I can make them work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>f. Chance and luck are important for what happens in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>g. I can do just about anything I really set my mind to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

What do you think about each of these statements?

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I know at least one adult I could talk to about my problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. I know adults who often cheer me on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5.1 Think about your friends in the group you hang out with. Do you have more self-confidence than they do, less, or about the same amount?

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More confidence</td>
</tr>
<tr>
<td>2. Less confidence</td>
</tr>
<tr>
<td>3. About the same</td>
</tr>
<tr>
<td>97. Don’t know</td>
</tr>
</tbody>
</table>
ABOUT YOUR FAMILY

6.1 Who do you live with now?

MARK ALL THAT APPLY

☐ Mother (including stepmother, adoptive or foster mother)
☐ Father (including stepfather, adoptive or foster father)
☐ Other adult relative(s)
☐ Other adult(s) I am not related to
☐ I do not live with any adults

6.2 Please mark which of the following is true for you.

MARK ONE

☐ I have a mother or someone who is like a mother to me.
☐ I do not have a mother or someone who is like a mother to me. \(\text{GO TO 6.6}\)

6.3 Answer the next few questions about your mother or someone who is like a mother to you.

How close do you feel to her?

MARK ONE

☐ Not very close
☐ A little close
☐ Pretty close
☐ Very close

6.4 Does she spend enough time with you?

MARK ONE

☐ Not much time, but I don’t want more.
☐ Not much time. I wish she spent more time with me.
☐ She spends enough time with me.

6.5 What do you think about these statements? They are about your mother or the person who is like a mother to you. For each, mark how true the statement is:

MARK ONE

ANSWER FOR EACH

MOSTLY TRUE | SOMETIMES TRUE | HARDLY EVER TRUE

a. It is easy to talk with her about things that happen in school.
☐ ☐ ☐

b. It is easy to talk with her about things that happen in my life.
☐ ☐ ☐

6.6 Please mark which of the following is true for you.

MARK ONE

☐ I have a father or someone who is like a father to me.
☐ I do not have a father or someone who is like a father to me. \(\text{GO TO 6.10}\)

6.7 Answer the next few questions about your father or someone who is like a father to you.

How close do you feel to him?

MARK ONE

☐ Not very close
☐ A little close
☐ Pretty close
☐ Very close

6.8 Does he spend enough time with you?

MARK ONE

☐ Not much time, but I don’t want more.
☐ Not much time. I wish he spent more time with me.
☐ He spends enough time with me.
6.9 What do you think about these statements? They are about your father or the person who is like a father to you. For each, mark how true the statement is:

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>MOSTLY TRUE</th>
<th>SOMETIMES TRUE</th>
<th>HARDLY EVER TRUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. It is easy to talk with him about things that happen in school.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
</tr>
<tr>
<td>b. It is easy to talk with him about things that happen in my life.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
</tr>
</tbody>
</table>

6.10 For each of the following, does your family have strict rules, some rules, or no rules?

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>STRICT RULES</th>
<th>SOME RULES</th>
<th>NO RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The people I hang around with. . . . . . .</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
</tr>
<tr>
<td>b. Dating and going to parties with boys or girls.</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
</tr>
<tr>
<td>c. Telling my parents where I am. . . . . . .</td>
<td>1 □</td>
<td>2 □</td>
<td>3 □</td>
</tr>
</tbody>
</table>

Think about your parent(s) or the people who are like parent(s) to you.

6.11 Think about the past year. How often did you ask a parent about healthy eating and exercise?

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 □ Never</td>
</tr>
<tr>
<td>1 □ 1 or 2 times</td>
</tr>
<tr>
<td>2 □ A few times</td>
</tr>
<tr>
<td>3 □ Many times</td>
</tr>
</tbody>
</table>
ABOUT THE FUTURE

The next question asks about your future.

Here are some things that people your age might say when they think of the future.

In general, do you agree or disagree with each statement?

<table>
<thead>
<tr>
<th>MARK ONE ANSWER FOR EACH</th>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I don't know what I want out of life.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. I have a clear picture of what I'd like to be doing in the future.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. I don't know what my long-range goals are.</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

The next questions are about things that some teens think about or do.

Please remember that all of your answers will be kept private.

7.1 Teens often feel pressure from other people.

How much pressure have you personally felt to do things you might get in trouble for?

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ A lot</td>
</tr>
<tr>
<td>☐ Some</td>
</tr>
<tr>
<td>☐ Not much</td>
</tr>
<tr>
<td>☐ None</td>
</tr>
<tr>
<td>☐ Don't know</td>
</tr>
</tbody>
</table>

7.2 How much would you say that the following statement is true about you?

I can say "No" to activities that I think are wrong.

<table>
<thead>
<tr>
<th>MARK ONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Very much like me</td>
</tr>
<tr>
<td>☐ Mostly like me</td>
</tr>
<tr>
<td>☐ A little like me</td>
</tr>
<tr>
<td>☐ Not at all like me</td>
</tr>
<tr>
<td>☐ Don't know</td>
</tr>
</tbody>
</table>
7.3 How often would you say that the following statement is true about you?

I have learned to stay away from people who might get me in trouble.

**MARK ONE**

1 □ Almost always
2 □ Usually
3 □ Some of the time
4 □ Almost never
5 □ Don't know

7.4 During the past month, how often have you smoked cigarettes?

**MARK ONE**

6 □ Not at all
7 □ Only a few times
8 □ 1 or 2 times a week
9 □ Several times a week or more

7.5 How many of your five closest friends drink alcohol, like beer, wine, or liquor?

**MARK ONE**

10 □ None of them
11 □ One or two of them
12 □ Three or four of them
13 □ All of them

7.6 How often do you drink alcohol, like beer, wine, or liquor?

**MARK ONE**

14 □ I never have
15 □ Only a few times ever
16 □ 1 or 2 times a month
17 □ A few times a week

7.7 How many of your five closest friends do you believe eat healthy?

**MARK ONE**

18 □ None of them
19 □ One or two of them
20 □ Three or four of them
21 □ All of them

7.8 How many of your friends exercise at least once a week?

**MARK ONE**

22 □ None of them
23 □ One or two of them
24 □ Three or four of them
25 □ All of the