

**An Academic Service Learning (AS-L) Activity within an  
Undergraduate Course in Pharmacology**

Blase Billack

Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, St. John's  
University, Jamaica, NY

**Address for Correspondence:**

Dr. Blase Billack  
St. John's University  
Department of Pharmaceutical Sciences  
8000 Utopia Pkwy  
Jamaica, NY 11439, USA  
Telephone: 1 718 990 5657  
Fax: 1 718 990 1877  
Email: billackb@stjohns.edu

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### **Abstract**

Academic service learning (AS-L) is a type of active learning in which a student demonstrates knowledge and understanding through service to the community and reflection. The present report describes an activity in which AS-L was implemented as part of an undergraduate pharmacology course. The course is common to the curricula of the Doctor of Pharmacy, Physician Assistant and Toxicology programs at St. John's University. In the AS-L project, students were charged to develop a presentation which they would then give to members of the community who were unfamiliar with the presentation topics. Students worked in teams and formed their presentations around discussion topics such as drugs versus natural substances, the medical benefits of drugs, the possible toxicities of drugs both legal and illegal, or the mechanisms by which drugs enter or leave our bodies. The student teams then traveled to various service sites throughout the greater university community with the goal of community outreach through education. In the present report, strengths and limitations of the AS-L project have been noted. The major strength of the project, as indicated from student reflection papers, was that each student in the team became an active learner and the otherwise "passive learning" environment of the classroom became an active one at the service site. All students in the team presented and answered questions. A major limitation of the activity was finding a suitable instrument for the assessment of student learning. Future AS-L courses of this type are anticipated to include pre and post surveys.

### **Keywords**

academic service learning, toxicology, pharmacology, undergraduate

## Introduction

Academic Service-Learning (AS-L) at St. John's University is defined as, "a classroom/experiential site-based program that involves students in some form of required community service activity that benefits the common (public) good and uses the service activity as a means of understanding course concepts<sup>1</sup>."

The office of AS-L at St. John's University is a division of the larger Vincentian Institute for Social Action (VISA). The purpose of VISA is to embed the mission of St. John's University into the educational experiences of its students. VISA provides an organizational focus for a variety of programs, including AS-L, so that, "faculty and students can explore issues of poverty and social injustice<sup>2</sup>." Through AS-L experiences, students have the opportunity to reinforce what has been learned in the classroom through skill-building experiences in the community.

Student AS-L opportunities must be centered upon one of four areas: (a) education, where students may serve as mentors or tutors or may participate in educational outreach to the community, (b) health care, where students may serve at hospitals or nursing homes, (c) civic engagement, where students may serve at various nonprofit organizations throughout the greater university community, or (d) hunger and homelessness organizations, where students may serve at soup kitchens or food pantries in the local community<sup>2,3</sup>. A distinct difference between traditional community service and AS-L is that the latter must be related to an academic course; in addition, a student reflection component, which explains how the AS-L experience reinforced course learning objectives, is required<sup>3</sup>. The student reflection component can take the form of a paper, a presentation in class, or a journal.

The incorporation of AS-L into academic courses is on a volunteer basis and is completely at the discretion of the faculty. According to data provided by VISA, in the 2012-2013 academic year, 260 different faculty incorporated an AS-L project into their courses<sup>4</sup>. To assist faculty interested in using AS-L to enhance the student learning experience, St. John's University has an office and staff which are entirely dedicated to AS-L and its incorporation into various courses throughout the University. The Office of AS-L holds regular workshops and seminars about AS-L wherein faculty members are encouraged to incorporate AS-L into their courses, to the extent possible. The only major requirement for the AS-L component from the faculty perspective is that the service activity is to meet course objectives and that through reflection students may examine issues pertaining to society and responsibility<sup>1</sup>.

I have taught Introduction to Pharmacology since 2003. This year, for the first time, I offered students a chance to perform an AS-L project as an alternative to writing a traditional term paper. Twelve students, from a class of 50 (24%), chose to carry out the AS-L project. The present report describes the AS-L project that was implemented as part of the course. Strengths and limitations of using AS-L in the curriculum are described. Student testimonials have also been included.

## **Instructional Methods and Content**

Students in the Bachelor of Science Degree Program in Toxicology are required to take a 2 credit course entitled, "Introduction to Pharmacology." Students in the Physician Assistant Program and the Doctor of Pharmacy Program also are required to take the course. Therefore, the student cohort is a mix of students from all three programs. The course is taken during the spring semester of the third year for toxicology and pharmacy students and during the spring of the second year for the physician assistant students. Prior to taking this course, students must complete two semesters each of prerequisite courses in general chemistry, general biology, and human anatomy and physiology. The course serves as an introduction to the basic and clinical pharmacology of drugs. There is an in-depth consideration of the factors modifying drug responses and dose-response relationships. The main goals of this course are to develop a thorough understanding of pharmacodynamics, pharmacokinetics and drug metabolism and to learn the basic and clinical pharmacology of the autonomic nervous system. After taking this course, the student is able to approach drug information with a solid command of the fundamentals of basic and clinical pharmacology.

The class size of the Introduction to Pharmacology course ranges anywhere from 40-60 students. Two written examinations (Midterm and Final) are administered in multiple-choice format and comprise 80% of the final grade. The remaining 20% of the grade is earned via a traditional term paper. However, this year students were given the opportunity of earning the final 20% of their grade by participating in an AS-L project. The students could either choose the term paper or the AS-L project; thus, the AS-L project was not required. Students were provided directions concerning the term paper option and the AS-L project during the 2nd class meeting and they had until the end of the 3rd class meeting to declare which of the projects they had chosen. It should be noted that the students were somewhat familiar with what to expect in an AS-L project, as they were all required to carry out an AS-L project during their freshman year.

The remainder of this activity report will describe how the AS-L project was carried out and what the students were expected to do. There will also be a discussion concerning strengths of the AS-L project and potential pitfalls.

## The AS-L Activity

One of the major course objectives is for students to be able to demonstrate their acquired knowledge of how drugs interact with the human body to benefit patients and resolve diseases.

The ASL project described below required a student or a group of up to five students to travel to a school or community center in Queens, New York and organize and carry out a single 2 hour workshop on one or more of these topics, which are in line with the course objectives and goals:

- What is a drug versus a natural substance?
- What are the benefits of drugs?
- Why are some drugs illegal?
- How do drugs enter our bodies and why?
- How do drugs leave our bodies?
- In what ways are drugs toxic?
- Why are some types of drugs available over-the-counter while other types of drugs require prescriptions?

Each student or team of students was responsible for the organization and content of the presentation and was left on their own to prepare the workshop. Those students or teams who required assistance were encouraged to meet with me during my office hours or after class. I reiterated during class time that the grade level of students in the community who attend the workshops typically ranges from the 6<sup>th</sup> to the 10<sup>th</sup> grades.

The service-learning project had two objectives:

(a) AS-L service objective: That the student will interact with the local community and teach members of the community about the nature of drugs and how drugs interact with the body. In doing so, the student will reinforce concepts learned in the classroom and demonstrate an ability to think and speak clearly to people not in the field.

(b) AS-L learning objective: That the people who attend the AS-L presentations will learn about the benefits of certain medications, as well as learn about how the body can eliminate certain medications.

## Service Sites

There were three community organizations which included Forestdale, Kehilat Sephardim of Ahavat Achim, and Project HYPE, at which students could choose to present the workshops. Forestdale and Project HYPE both had access to technology; therefore, students could use PowerPoint. For the other site, it was necessary for students to prepare a “show and tell” or a handout. At all sites, students could ask to take photos. Lastly, AS-L presentations generally occurred during school day hours or, at times, on a Saturday or Sunday.

A list and description of the potential sites for the AS-L project now follows:

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1. Project H.Y.P.E. (Helping Young People Evolve)  
Held at the Ronald McNair School PS/MS 147  
218-01 116th Ave.  
Cambria Heights, NY 11411
2. Forestdale, Inc.  
67-35 112th Street  
Forest Hills, NY 11375
3. Kehilat Sephardim of Ahavat Achim  
150-62 78<sup>th</sup> Rd.  
Flushing, NY 11367

### *About Project Hype:*

The purpose of Project H.Y.P.E. is to combat the educational, social, and personal factors which often prevent students from attaining success. Students learn to be leaders, make excellence their standard, achieve academic honors, and stay disciplined to H.Y.P.E.'s success principles to the realization of their dreams<sup>5</sup>.

### *About Forestdale:*

Forestdale, Inc. is a not-for-profit, non-sectarian voluntary agency that offers comprehensive services to children and families. Forestdale currently provides foster boarding home services for children from birth through age twenty-one, to children who are victims of abuse and neglect, and for whom placement outside the family is deemed necessary by the Family Court or voluntary placement has been requested by the birth parents. In providing and operating a preventive program, Forestdale incorporates the principles of strengthening families, keeping them intact, and helping each individual within the family become more self-sufficient, while at the same time providing services to reduce the risk of abuse, neglect and/or placement of a child into the foster care system<sup>6</sup>.

### *About Kehilat Sephardim:*

Kehilat Sephardim of Ahavat Achim was established as a central organization helping those from the former Soviet Union who were living under oppression and persecution. Since then, it has expanded to serve the needs of the Queens community with its Food Pantry Program to help the hungry, regardless of denomination. Existing for over 20 years, it is the number one Kosher food pantry in Queens and disperses food to over 1200 members of the community that are in need, weekly<sup>7</sup>.

### **Announcement Flier for the Service Site**

An “Announcement Flier” promoting the AS-L event had to be first compiled and approved by all members of the AS-L Team. The flier was then submitted to the course instructor via email and no later than one week prior to the event. The course instructor then sent the flier to the service site.

The Announcement Flier promoting the event must have the following sections:

- Title of the Group Presentation
- Location of the Presentation
- Date of Presentation and Time of Presentation
- Names of Presenters
- Artwork or some graphic component relating to the Topic
- Topics to be Covered and who will cover them

A sample Announcement Flier has been attached (Appendix 1). All student names have been removed from the flier, for privacy purposes.

### **Transportation**

AS-L presentations had to be completed one week prior to the Final Exam. Students were responsible for their own transportation to the presentation site and were expected to be courteous and professional to the students they met at the site. The course instructor reserved the option of being present at the AS-L event.

### **Reflection Paper**

Reflection is an important component of AS-L since it provides the opportunity to link what students learn in the service project to what they learn in the classroom. Reflection of this AS-L experience was achieved in the form of a 2 page paper. Students were informed that reflection papers could be made public to the office of AS-L at St. John’s University. Each student, regardless of whether they present singly or in a group, was required to submit a reflection paper. Note that, after having scored the reflection papers for the AS-L project described herein, it appears that for students to adequately address the points below, the reflection paper may, in future courses, need to exceed 2 pages.

## Reflection Paper Components

A well-written reflection paper was expected to be comprised of the following portions:

(a) Summary of Event: In one or two paragraphs, describe the “Who, What, When, Where and Why” of this project. Who did you serve? When? Where? Why? What was the purpose of this? What was your specific role in the presentation?

(b) Names of the other students with whom you co-presented (if applicable).

(c) Comment on the pluses of working together in a team.

(d) Comment on the pitfalls of working together in a team.

(e) Comment on the concrete experience: What did you do when you served?

(f) Comment on the affective experience: How did serving make you feel?

(g) Comment on the relationship between service and course content and concepts: How has serving reinforced what you learned in the classroom?

(h) Was there a most memorable moment of the experience?

(i) Would you consider doing something like this again, in a future course?

(j) How did the service experience relate to the learning objectives of your course and what you have learned in the classroom?

(k) How did your feelings about the population you served change or grow after serving?

(l) How was this service connected to the Vincentian Mission of the University, to search out the causes of poverty and social injustice and to encourage solutions which are adaptable, effective, and concrete? ‡

(m) How has this service affected your worldview on social justice issues? ‡

(n) How has this service enabled you to assist your community partner to address social justice problems? ‡

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‡ Parts l, m and n were optional and did not need to be answered in the reflection paper. If the student chose to address these points, the student’s reflection paper became eligible for an AS-L award, which was not part of this course and which was applied for by the student directly to the AS-L office of St. John’s University. However, in order to address these last three questions, the student had to first understand what is meant by the term, “social justice.” There are several definitions of the term, all of which can easily be found in the various reference books that are housed in our campus library (St. Augustine Hall).



## How the AS-L Project was Scored

Recall that this project was worth 20 points (20%) of the final grade and that a reflection paper was required from every student, regardless of whether or not they worked in a team to achieve the goal. The following describes how a student AS-L reflection paper was scored:

*Scores of 15-20:* Excellent; the student submitted a well-thought-out and well-written individual reflection paper ( $\geq 2$  pages), and the student or group has created a well organized flier used to promote the event.

*Scores of 10-14:* Acceptable; the student submitted an individual reflection paper which is satisfactory (1-2 pages), but may have been better organized or less deficient in certain aspects, and the student or group created a satisfactory flier used to promote the event.

*Scores of 5-9:* Poor; the student submitted an individual reflection paper which was poorly written and/or organized (1-2 pages), and the student or group created a poorly prepared flier used to promote the event.

*Scores <5:* Unacceptable; serious remediation required in both content and style.

## Strengths of this AS-L Project and Potential Pitfalls

In the AS-L project described here, the students were first charged to develop a presentation concerning the nature of drugs and pharmaceuticals and their effects on the human body. As the project unfolded, the students chose to work in teams. The student teams then took that presentation to various service sites throughout the greater university community with the goal of community outreach through education. In the process, each student became an active learner and the otherwise “passive learning” environment of the classroom became an active one. The presentation given by each student team, in which each member of the team was required to interact and speak about the topic to the members of the community, created an environment of “education for understanding<sup>8,9</sup>.” It is worth noting that the members of the community who attended the presentations were not of a science background and the majority of attendees were middle school to junior high school aged children of diverse academic backgrounds. As evidenced from student reflection papers (Appendices 2 & 3), the student presenters reported that they learned the subject material better than they otherwise would have in a traditional “lecture only” setting. Moreover, the student presenters were grateful for a chance to bring their knowledge to the community and responded well to the challenge of having to present complex pharmacology and toxicology principles to people with little or no background on these topics.

The importance of critical reflection in applied learning has been well described elsewhere<sup>10</sup>; it is therefore essential for an AS-L activity to also include a component of reflection. However, the requirement of a reflection paper, as described here, resulted in a qualitative overview of the experience, and one that was not amenable to statistical analysis as, for example, a survey would be<sup>11</sup>. Thus, depending on the way in which an instructor plans to assess whether or not a particular course objective was achieved via the AS-L project, a more rigorous reflection tool may be required. In the present example, presentation feedback was also

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provided by the various site directors. As the instructor, though not required to do so, I was able to attend a couple of the AS-L presentations and to also offer feedback to the students.

A weakness of the present approach was that, while it focused on the ability of a student to learn about how drugs can affect the body and then present that information to a cohort in the community, there was no assessment as to what the learners in the community actually learned. In other words, there was no way to know how effective the presentation was. Of interest, one student group distributed a word search game and then carried out a question-and-answer session following their talk. These activities demonstrated that the learners in the community did retain portions of the material. In the future, a pre and post service survey of the learners may be of interest<sup>11,12</sup>.

One major advantage of integrating an AS-L project into the Introduction to Pharmacology course is the technical support offered to the faculty. There exists an office of AS-L on campus which is dedicated to maintaining sites and identifying new community outreach sites. As the instructor, I was not given the challenge of having to find sites, as the three described above are frequently visited by students. Another advantage of AS-L at our university is our location. We are located in the heart of Queens, one of the most populated areas of the world, and there are many possible community outreach sites. It is easy for students to travel to sites, even if they do not own a car, because of the extensive transportation system in NYC. However, students are responsible for their own transportation, which adds a burden of cost and also requires careful planning to be able to arrive on time to the site of interest.

The students both enjoyed and complained about working in teams. While working together seemed to lighten the burden and establish a collegial environment, it was difficult for most of the students to find time to meet as a group together. One student explained that some of the meetings required the use of technology, such as "Skype," but that everyone found time to carry their weight. Of the 12 students who participated in the AS-L project during the Spring of 2013, every one of them had something positive to say and explained that the AS-L project motivated them to know the material.


Overall, the AS-L activity described here is one which can be achieved even in the absence of a university office of AS-L, as long as the instructor has a firm grasp on the number of students planning to choose the assignment. The more students, the more community groups she/he will need to enlist, as more than 5 students in an AS-L team will likely be cumbersome. Possible sites include: local middle schools, high schools, student groups on campus, church groups, boy and girl scouts groups and the like. The initial semester in which one incorporates AS-L will likely be fulfilling but will also likely show some bumps in the road. Nonetheless, the student learning experience provided by an AS-L activity is a unique one. As an old French mathematician once said, "A mathematical theory is not to be considered complete until you have made it so clear that you can explain it to the first man whom you meet on the street"<sup>13</sup>. AS-L gives students the chance to show what they know. The more our students know, the further they will go. Based on the experience described here, I highly recommend AS-L in undergraduate toxicology courses. Best of luck to you and your students!

Appendix 1: Sample AS-L project announcement flier

St. John's University  
Presents:

**THE GOOD, THE BAD, AND THE UGLY**

**DRUGS**



**PROJECT FORESTDALE**  
**LOCATION: FOREST HILLS**  
**MARCH 9<sup>TH</sup>, 2013 AT 1:00 P.M.**

<b>Presented by:</b>	<b>TOPICS TO BE COVERED:</b>
<b>Student AA</b>	WHAT IS A DRUG VERSUS A NATURAL SUBSTANCE?
<b>Student BB</b>	WHAT ARE THE BENEFITS OF DRUGS?
<b>Student CC</b>	INFORMATION ON ILLEGAL DRUG USE
<b>Student DD</b>	HOW DO DRUGS ENTER OUR BODIES AND WHY?
<b>Student EE</b>	HOW DO DRUGS LEAVE OUR BODIES?

## Appendix 2: Sample of Student Reflection Paper, Student “A”

The presentation that was done on Saturday, February 23<sup>rd</sup> was oriented towards boys that are between the 5<sup>th</sup> and 8<sup>th</sup> grades. They were a part of a group, known as Project H.Y.P.E., whose goal is to combat the educational, social, and personal factors that often prevent students from attaining success and make students hard-working leaders in any endeavor that they undertake. The presentation was delivered in the Ronald McNair School PS/MS 147 in the Cambria Heights section of Queens. Our main objective in giving this presentation was to effectively introduce the topic of pharmacology, the study of drugs, from what we learned in our lecture classes. Some of the sub-topics that we covered were common misconceptions about drugs, the reaction of the body to the drug (pharmacokinetics), types of drugs and their receptors. My role as the assistant group leader was to input any information dealing with different responses of the body to drugs, as well as the toxic effects of drugs.

I had one partner in this project, who also co-presented with me. Although it was only the two of us, we established a great connection that facilitated all of the work that we had in front of us. For one thing, working in a group really helped because we both contributed with ideas for the presentation. We also each offered honest feedback to any thought that was proposed. For example, I remember telling her that we needed better graphics to explain the difference between agonists and antagonists and recommended [using] the graphics from one of the lecture PowerPoints. We both ended up agreeing that we would do that, and it proved to be a great addition to our project.

Fortunately for us, we did not have any drawbacks in working on this assignment as a team. Initially, when I thought that we were going to be in a group of more than two people, I thought we might have a problem in working as a team if we all could not get along. This would complicate accomplishing the work from the start. As part of most academic service learning projects, we had to also take care of our presentation. I have been to the school as part of a community service project and I remember taking almost an hour to get there. I think that since academic service learning is something that we are [doing for a class assignment], we should be provided transportation. Fortunately, my partner and I did not have difficulty in arriving to the site because we drove, but if we had to take public transportation it would have taken a longer time to arrive complicating our morning. Nevertheless, I am glad to have worked in a group. My partner and I organized our presentation in a timely manner, working efficiently and with a great deal of chemistry.

On the day of our presentation, we delivered our project to the young H.Y.P.E. scholars. We started off by defining what a drug was and proceeded to clear a common misconception of drugs only being hallucinogenic and addictive agents. Afterwards, we addressed the importance of receptors in activation of drugs and common receptor properties. Soon after defining what agonists and antagonists are, we began speaking about the properties of drugs, along with their risks and benefits. The last portion of our PowerPoint presentation was devoted to pharmacokinetics. There was no set amount of slides that we set for each other to present, meaning that we alternated every few slides to keep the presentation flowing smoothly.

Presenting to these young men made me feel proud of the opportunity that I have been given. By opportunity, I am referring to my education. That day that me and my partner presented, I felt as if I was sharing in that opportunity I was given. I also saw the importance in what I was doing by sharing my knowledge of something that I have grown to know and love, and that is science. Many children nowadays are not exposed to science at an early age possibly

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leading to misconceptions as to what working as a chemist, biologist, or even physician entails. Although the H.Y.P.E. Program may not be a group that is directly oriented towards science, I feel that what me and my partner did that day really made an impact in the minds of those young men.

Pharmacology itself is a very interesting subject, especially since we experience it almost every day of our lives. From drinking some coffee in the morning to taking a pill for a headache, we interact with drugs on a daily basis. Although an interesting topic, I knew that this course would not be easy and understanding concepts would be essential, as opposed to memorizing facts. The concepts that we had to know would serve us later on in the course when we would start to learn more about specific drugs that could be clinically used. Presenting this project only served to reinforce everything that I learned in the classroom. I can say from experience that I best learn subjects when I teach them to other people. Not only was I strengthening my knowledge in the subject, but I also was giving back to the community in a way that I never did before, using my education to inspire others to take advantage of the same great opportunity.

With this in mind, I definitely enjoyed my experience in this project. Although there were several memorable moments, I can say that the most memorable one was the look on the faces of the boys when it came to the interactive portion of our presentation. Knowing that it would be difficult to take in so much new information, we wanted to provide the boys with some visual and practical items to support our presentation and the science that we encounter in St. John's. Our professor brought his rat model and microscope with slides for our audience to view. We also showed them some pictures of some of the experiments that we did in labs at our university. Everything that we showed them produced looks of both amazement and content; and that was one of the most gratifying feelings that I have felt.

I have done a few academic service learning projects, but I can honestly say that this one was the best one that I was involved in. I would definitely plan on doing a similar project for a future science course or even recommend people to do an academic service learning project. I aspire on pursuing a medical career, specifically in neurosurgery and I one day hope to give back to my community. Presentations, such as the one that I did for Project H.Y.P.E, would definitely be a way that I would look to give back. My main goal in doing this would be similar to the objective of my academic service learning presentation, just on a larger scale. I am grateful for having participated in this project and look forward to do the same several times in the future.

### **Appendix 3. Sample of Student Reflection Paper, Student “B”**

How are we, as college students, able to reach out to the community? Well, there are definitely a multiple number of ways, but Forestdale became one of the sites in particular. Forestdale is a non-for-profit, non-sectarian volunteer agency that offers a variety number of educational workshops, financial workshops, science workshops, game nights, different types of tournaments, and much more for kids and their families. Along with these services, Forestdale Inc. gets involved in the lives of children who have been abused and/or neglected, with parents who are in crisis, with teens who need help facing adulthood, and much more. Since the organization of Forestdale helps so much within this wide ranged community, [our] University decided to help out by presenting a workshop about drugs and its various effects.

There were five of us who came up with this presentation. My group and I had decided that the best way to convey such information was to be interactive with the kids (granted there were only two who had come). We had all decided to begin our presentation with a word search in order to get the kids familiar with some of the words that would be presented in our PowerPoint. Some words such as drugs, renal, absorption, oral, elimination, tobacco, and much more were used. During this time we were able to talk with the kids and get to know them as an individual. There was one kid who aspired to go into an acting school in LA. Even though this did not pertain to the drug aspect of our presentation, I felt that getting the child to talk about something he wanted was a stepping stone to have him learn something at the end of the day.

Following the word search, we began our PowerPoint presentation. This presentation pointed out a number of different aspects. Each of us took turns talking about things that ranged from natural substances, drug absorption, drug distribution, drug elimination, the benefits of drugs, and even the illegal substances. Hopefully some of the pictures within the illegal substances did not traumatize the kids, but other than that I felt that the kids were able to learn something. [Our professor] came with a model of a dissected rat that showed different organs. We were able to map out the way a drug could travel through these different organs from the stomach, the intestines, the liver and more. I believe the two kids paid attention and were interested the things we mentioned. We tried to relate the things said with real life examples. One of the ones mentioned was how Magic Johnson had HIV. By knowing what this basketball star had, the boys were able to relate his condition with what we presented.

I believe that the last activity that we had planned allowed us to determine if the kids were actually paying attention and if they retained some information. We played a modified version of BINGO. We had a list of questions ready with one word answers that were presented on the BINGO board. As we asked these questions, they were able to fill up their BINGO board. With some help, both boys were able to win. By performing such a game, I think the St. John’s team felt proud that the kids learned something. Even if it be a single piece of information about school, about drugs, or even about its effects, I think this final activity of our presentation was an innovative way to get some information across. I think the kids enjoyed themselves between the games, the food, and even our presentation.

I have to say that this experience was very worthwhile. Even though the turnout in the number of kids was not as large as we hoped, the couple that did show up seemed to understand and benefit from our presentation. The boys were 14 years of age which meant that they were not much younger than us. We related to each other and constantly turned to real life examples in order to convey our information. Talking with [the Forestdale Director], the one in charge, made us realize that this is something we could all continue to do in our free time. We all loved the idea of coming back in the summer and helping out this organization with the ample amount of

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stuff that they do. From helping each person individually to going to various events and activities (like meeting Alicia Keys), Forestdale is definitely a unique incorporation.

**Notes**

The student materials presented in Appendices 1, 2 and 3 are anonymous, and written permission has been obtained from each of the students. The author declares no competing financial interest.



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