

## **“ARMED & DANGEROUS - CAMP GMI, A PLACE FOR GIRLS”**

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Although GMI Engineering & Management Institute has been in existence for over 75 years, few efforts have been made to offer campus experiences for younger girls in the Flint and surrounding environs. This investigator began by gathering national statistics on girls in science and math and comparing those figures with local findings. The data collected from Flint's middle schools supported the national data documenting a steady decline in girls science and math test scores after they enter 8th grade. By the time these young women are ready for college, many do not have the academic preparedness to enter the technical fields. We concluded that there was a crucial need to provide services for middle school aged girls.

In 1995 with the help of Genesee Intermediate School District and a grant from the Community Foundation of Greater Flint, we began *Camp GMI* for 7th and 8th graders. This program was modeled after our *21st Century Woman*, a three year old science program for senior high school girls.

### **COMMUNITY INVESTMENT**

*Camp GMI* began as a total community effort. The school district coordinator was instrumental in getting applications to all 22 school districts in a three-county area. The grant provided sufficient funding for the start up. We also received funding from GMI for faculty stipends and equipment. In our pilot year, we served 24 campers and four older students trained as “fellows.”

### **CRITICAL FACTORS**

#### *The Students - The Parents*

Orientation, at which time the entire program concept was discussed - was mandatory for both student and at least one parent/guardian. Parents were given factual data on why girls begin to lose interest in science and math courses.

They were also advised to continue encouraging their daughters to explore technical fields and to actively seek out programs that would provide additional exposure and opportunities. Research shows that parental support is a strong indicator of a daughter's decision to continue in these fields. It was also important to dispel the myth that young women in the technical fields do not lead normal healthy lives which include marriage and families.

## **FACULTY**

### *The Recruitment/Training*

We first requested and received support from our Women Faculty Task Force. We invited our entire faculty to take part in the program. Several brainstorming and planning sessions lead by Dr. Laura Sullivan, Industrial & Manufacturing Systems Engineer. In addition, several top science and math teachers from Genesee Intermediate School District provided a two-hour orientation for faculty who had not previously taught this age group. We also provided all interested faculty members with an activity book of experiments developed to introduce this age group to many different fields.

This project from the very beginning received strong support from GMI's President and Vice-President for Student Affairs. The Vice-President was able to secure an agreement with the Provost that allowed an overload for the three faculty members involved in curriculum development. All faculty/staff who taught were paid based upon contact hours.

## **THE PLAN**

Camp GMI ran from 8-4 p.m., Monday through Friday for one week. The girls were in classes/laboratories all day with one hour provided for lunch. The Thursday field trip involved a luxurious bus ride with movies, to the Detroit Science Center.

Each morning the girls were given their assignments, discussed the prior day's activities and shared their experiences. Because GMI is a year-round campus, they experienced regular campus life. They shared the cafeteria and conversation with the freshman engineering students. A panel of our female students provided for both personal and professional information. This was one of the program's highlights.

## **OTHER CRITICAL FACTORS**

Other important elements included a GMI student coordinator and trained peer leaders.

These "fellows" attended a one day leadership training seminar and were paid a weekly stipend.

A variety of personal and professional development activities, were included (motivational sessions, personal image building, team building and games).

We wanted to promote multicultural understanding and facilitate exposure among the girls who represented a diverse racial and socio-economic mixture. The girls were divided into two groups and given the responsibility of creating a 10 minute project to present at their "Grand Finale" banquet. Many of the girls formed new friendships as a result of this team activity.

Another important component of the project was a daily journal requirement. We wanted to instill the idea that writing skills are crucial regardless of chosen fields. Too many of our young people have never developed basic writing skills and others have not been encouraged to become more creative. Although some girls expressed a dislike for daily reflections, we found the journals provided insight into their true feelings about their experiences. They were also given the opportunity to enter a creative essay writing contest with the winner presenting at the Grand Finale.

### EVALUATION TOOLS

We modeled our process after that presented at a regional *WEPAN* conference. The pre and post program evaluation surveys were adapted from those utilized by Susan Metz (Stevens School of Technology) and Dr. Cinda Sue Davis - University of Michigan. Self-administered surveys, structured questionnaires, observations by faculty/staff and an analysis of the data base were used to determine success.

### FOLLOW-UP

All participants will be sent questionnaires to find out if they are taking more math and science courses. We plan to set up a monitoring system for tracking girls from our high school project to determine their fields of study upon entering college.

### FUTURE EXPECTATIONS

We received excellent media coverage of our programs this year and as a result, both projects received numerous applicants. This summer, *Camp GMI* will expand to provide campus experience for all applicants. Two weeks of camp will serve 60 campers and peer leaders. Another 60-70 girls will be offered a shorter version called "**Week-End Camp GMI**," which will consist of two Saturdays of classroom experiments, labs and a field trip.

Our biggest limiting factor is the year-round academic structure that limits the availability of laboratories and faculty during the summer months. Our “Super Saturday Series” (year round) help keep the girls interested and allows them to continue to expand their horizons.

In 1995 we served 24 Campers, combined programs this year will allow approximately 120 girls this unique opportunity. In conclusion, we have generated an academic atmosphere in which girls are expected to succeed!