**Quality of Workshops**

Sonia Kovalevsky Day was organized by the Association for Women in Mathematics to encourage young women to continue their study of mathematics, and to assist them with their transition from middle school to high school and from high school to college. The purpose of this day was to assist the teachers of women mathematics students and encourage universities to get involved with middle and high schools in the surrounding area. This project aims to expose young women to opportunities available in math and science by creating fun and exciting experiences through workshops, plenary talks, panel discussions, and a math competition.

**What is Sonia Kovalevsky Day?**

Sonia Kovalevsky Mathematics Day was organized by the Association for Women in Mathematics to encourage young women to continue their study of mathematics, and to assist them with their transition from middle school to high school and from high school to college. The purpose of this day was to assist the teachers of women mathematics students and encourage universities to get involved with middle and high schools in the surrounding area. This project aims to expose young women to opportunities available in math and science by creating fun and exciting experiences through workshops, plenary talks, panel discussions, and a math competition.

**Math Geocaching**

For the first workshop of the day, we wanted it to be interactive and technology driven. We developed a workshop based on the online scavenger hunt, Geocaching. In this workshop, the girls had to race around the UWEC campus and complete math challenges to win prizes. To start, the girls were split into teams and given coordinates to a location. They had to enter these into Google Maps on their teams’ iPads, which pointed to where a cache was placed. Each cache was a math challenge that the girls had to complete to get the coordinates for their next challenge. For example, one challenge was placed on the UWEC bridge. For this challenge, the girls had to solve multiple problems in order to unlock a box that held their coordinates for the next cache. In this problem, the students applied concepts of trigonometry and algebra. To move on to the next cache, the girls had to enter the correct answers into a Wikispaces URL that directed them to their new coordinates. After successfully completing all of their challenges, the teams raced back to Hubbard Hall. First and second place prizes were awarded to the top finishers. This competition engaged the girls in several types of math topics with technology that is not used often in the classroom.

**High School Workshop**

In this workshop, the girls used mathematical thinking and strategies in real-life MarioKart and Farmville. For MarioKart, the girls had the opportunity to detect the motion of moving bikes using calculus-based laboratories. Two girls rode the bikes while their teammates stood behind and calculated their distance according to time. Afterwards, they analyzed the data presented in their graphs and answered questions based upon their recordings. In the Farmville workshop, the girls used their mathematical thinking and concepts to develop their own garden. They competed to produce the largest amount of profit from their crops. The main concepts that the girls were exposed to in these workshops were relationships between rate, time, and distance and monetary conversions.

**Middle School Workshop**

In this workshop, the girls dealt with three different topics. First was the game 24 that helped the girls focus on the order of operations. The girls eventually recognized a pattern and technique to figure out the answers faster. The second game was Let’s Make A Deal where the students watched a video to obtain an understanding of the Monte Hall problem. The girls played an interactive online game to see if they could match the Monte Hall problem. Last, the girls played an interactive online Let’s Make A Deal simulation to see if they could win the most amount of money. The girls worked through an activity sheet to find the probability of their case. At the three workshops, there were volunteers to help assist the girls and encourage them to think of the best and think critically about the activities at hand.

**Teacher Workshop**

Dr. Sherrie Sorens designed two teacher and professional development workshops titled “Engaging Authentic Problems” and “Resources for Technology Rich Lessons.”

**Student Workshops**

High School Workshop

In these workshops, the girls used mathematical thinking and strategies in real-life MarioKart and Farmville. For MarioKart, the girls had the opportunity to detect the motion of moving bikes using calculus-based laboratories. Two girls rode the bikes while their teammates stood behind and calculated their distance according to time. Afterwards, they analyzed the data presented in their graphs and answered questions based upon their recordings. In the Farmville workshop, the girls used their mathematical thinking and concepts to develop their own garden. They competed to produce the largest amount of profit from their crops. The main concepts that the girls were exposed to in these workshops were relationships between rate, time, and distance and monetary conversions.

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