2011

Leg-Up: Helping Youth Apply Engineering

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Group 2: Do Moldy Reeds Cause Disease?

Our wonderful WMU journey to fight moldy reeds!!

The team presented their research at the 2019 American Society for Engineering Education (ASEE) national conference and shared their findings with the WMU College of Engineering and Applied Sciences community. They also received feedback from their mentors and other attendees. The team’s research paper was featured in the Kalamazoo Gazette and WWMT News Channel 3, and the team members received media coverage for their efforts. The Gazette coverage was picked up by the American Society for Engineering Education’s media arm, which further disseminated their research.

From the mentors’ perspective:

- Treat the middle school students like college students and they will respond like college students.
- The experience leads to enormous opportunities for teachable moments.
- With a little assistance to get started, middle school students were very capable of performing at what is usually seen as college level.
- The students were open to many possibilities and their project research typically crossed disciplines.
- It was fun and rewarding.
- This age group can be more creative than college students.

Lessons Learned:

There were many insights gained by both mentors and students. Some of those points are enumerated below:

From the students’ perspective:

- Research can be fun.
- An investigation ultimately leads to more questions.
- You do not have to have all the answers, but you have to know where to look for quality information.
- WMU is great.
- Math and Science may now be the career of choice.

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Next Steps:

At the end of the year, the four students were required to present their projects to the 6th, 7th, and 8th graders and faculty at Paramount Charter Academy (> 200 students). The response from the students, faculty, and parents to their presentation was amazing. At first, we were unsure of how the students would react to presenting in front of such a large crowd, but both student teams seemed to thrive on the excitement. The teams did such a great job that there was no need to advertise this year for the new cohort. Paramount Charter Academy had to develop their own application process to deal with the number of student teams that wanted to get into this program. This year, another team from the Gagie School will be added to Leg-Up along with two teams from Paramount.

It is also worth mentioning that the Kalamazoo Gazette and WWMT News Channel 3 both did short news pieces on this program last year. The Gazette coverage was picked up by the American Society of Engineering Education’s media arm which further disseminated this endeavor internationally.

Acknowledgments:

We would like to thank Ms. Amy Lawrence (Paramount Charter Academy), Ms. Anna Kamphaus (MS student - IE WMU), and Ms. Fehime Utkan (PhD student - IE WMU) for the countless hours that they put forth to make Leg-Up’s first year a success.