



Women *in* STEM

Science, Technology, Engineering, & Mathematics

2019 Evaluation Report October 2019



This report provides a summary of the activities and findings regarding the evaluation of the 2019 Women in STEM event. The event was held on October 30, 2019 at Bowling Green State University. This report summarizes the following information:

- Event attendance
- Event activities
- The quality of the event
- The impact of the event
- Recommendations for next year

Event Attendance

An approximate total of 436 people attended the event, including 37 chaperones/teachers, 58 session presenters/co-presenters, 4 staff/12 volunteers, and 325 participating students.

Students from 19 different schools in northwest Ohio attended the event. Two to three chaperones from each school attended with the students. A grant from The Anderson's provided sponsorship of 40 students from Marshall STEMM School and McKinley STEMM School from Toledo Public Schools to participate in the event. Listed below are the schools that participated in the 2019 event.

Bowling Green Middle School
Bryan Middle School
Buckeye Central Middle School
Chamberlin Hill
Danbury Middle School
Edgerton Jr. High
Fassett Junior High School
Gateway Middle School
Genoa Area Middle School
Hicksville Middle School
Lake Middle School
Liberty Center Middle School
Marshall STEMM School
McKinley STEMM
Northwood School
Riverdale Middle School
Spencerville
Upper Scioto Valley High School
Van Buren Middle School

Event Activities

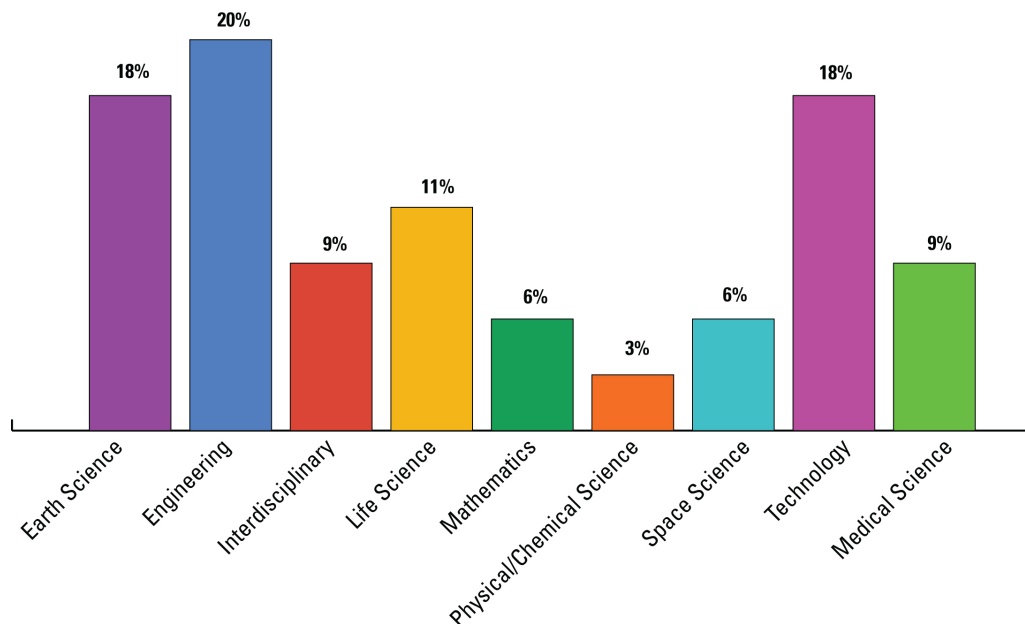
Women in STEM was coordinated by the Northwest Ohio Center for Excellence in STEM Education at Bowling Green State University's College of Education and Human Development for the sixth consecutive

year. The schedule of the 2019 event is illustrated below. Students attended a keynote activity, three content sessions, and a closing activity before being dismissed at 2:00 PM. The Anderson’s sponsored the opportunity for underrepresented students from Marshall STEMM and McKinley STEM schools to attend the event.

8:30 AM – 9:00 AM	9:05 AM – 9:45 AM	9:55 AM – 10:40 AM	10:50 AM – 11:35 AM	11:45 AM – 12:30 PM	12:40 PM – 1:25 PM	1:35 PM – 2:00 PM
Check-in and Welcome	Keynote Activity with Imagination Station	Session 1	Lunch (students split)	Lunch (students split)	Session 4	Closing Remarks & Admissions Raffle
			Session 2 (students split)	Session 3 (students split)		

Students participated in sessions with their school groups throughout the day. The students attended three out of forty-five possible sessions during the event. The types of the 2019 sessions are shown below.

Women in STEM Sessions by Topic



Quality of the Event

The quality of the Women in STEM event was determined by examining evaluation responses from all participants: students, presenters, and chaperones/teachers. Presenters' thoughts about the events were documented using an online post-event survey. Students' thoughts about the event were documented using session-specific evaluation survey and an overall survey, printed double sided for the students. Chaperones' thoughts about the event were documented using an overall survey.

From the Students' Perspective

Students completed an evaluation survey for every session they attended. Session evaluation surveys were submitted for 45 unique sessions. Students were generally very positive about the sessions. They believed that the presenters were high-quality, the sessions were engaging and worth their time, and increased their interest in STEM fields of study and careers. Students agreed most with statements about the quality of the presenters (good at explaining the topic and answering questions; enthusiastic about the topic).

Although all sessions had a positive average rating, some sessions were (inevitably) better received than others, and some presenters conducted more than one session.

Students' written comments were also positive for the most part. The figure below is a word cloud created from the students' written comments. The size of a given word corresponds with its frequency within the students' comments. Therefore, the more times a word appears within the comments, the larger the word will be in the word cloud. As seen below, words such as "liked," "fun," "STEM" and "hands-on" were common among the students' comments.



An overall evaluation survey was distributed at the end of the event. A total of 117 students completed the overall evaluation survey after the event. Overall, they felt very positively about this year's event. Students were asked to identify their interest in "STEM Topics" and "STEM Careers" before attending and after attending Women in STEM. After Women in STEM, 81% of the students reported being "Pretty or Very Interested" in STEM careers and relatedly 90% reported being "Pretty or Very Interested" in STEM topics.

From the Chaperones' Perspective

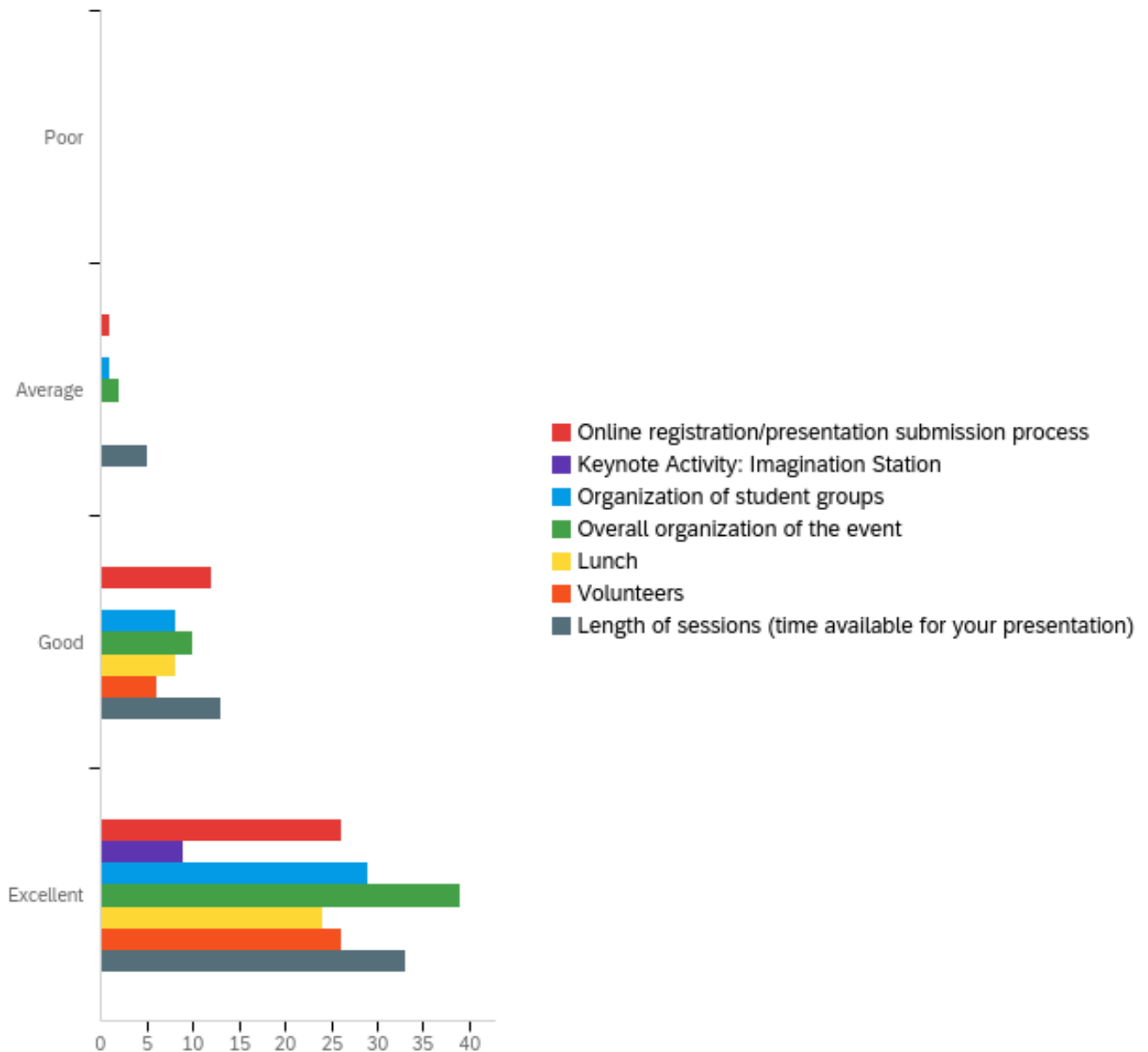
A total of 35 chaperones completed the overall evaluation survey after the event. Overall, they felt positively about this year's event and the many aspects that go into implementing a positive and impactful experience for attendees.

From the Presenters' Perspective

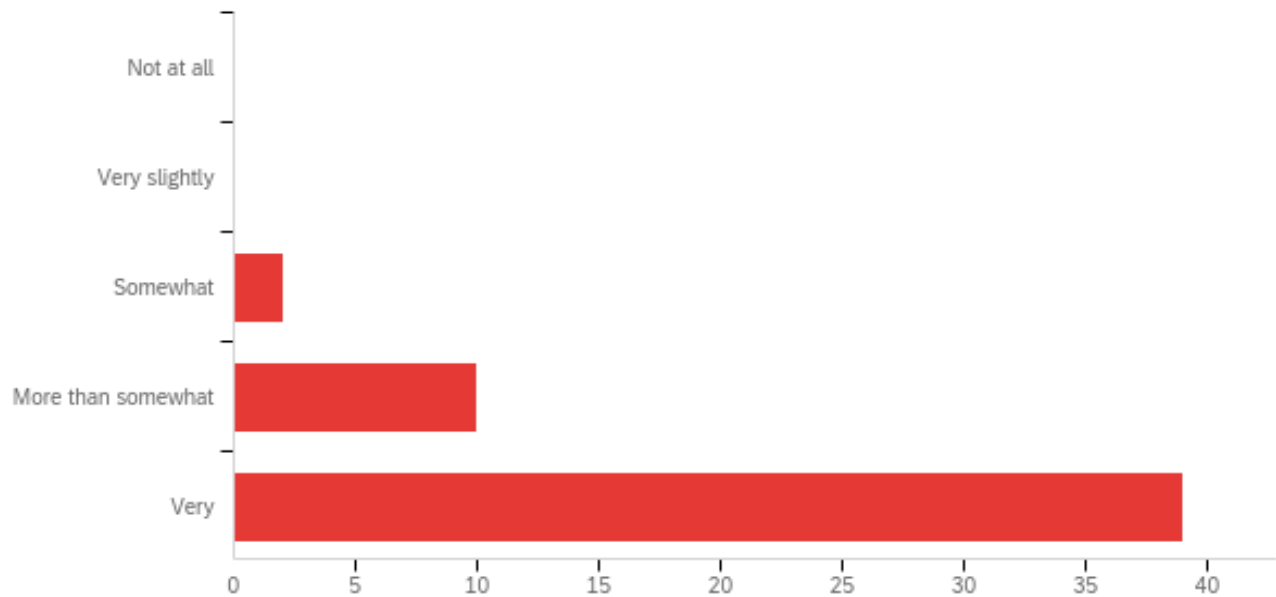
Fifty-four presenters completed the online evaluation. Over half (of the respondents indicated that this was their first or second year participating in Women in STEM, indicating that staff recruitment efforts to include new presenters appears to be working well.

Presenters were also asked to rate several aspects of the Women in STEM program. Their responses are detailed below. The majority of respondents noted that they did not take part in the keynote activity, which accounts for the low response rate in this category on the chart below. Overall, the presenters responded very positively about the event overall with the majority rating each category as "excellent" or "good".





Additionally, presenters were asked to rate the extent to which their participation was worthwhile. All presenters reported their participation to be “more than somewhat” or “very” worthwhile and 93% indicated that they were “somewhat likely” or “very likely” to participate in future Women in STEM events. Their reasoning mostly revolved around the importance of engaging the students in STEM; serving as potential role models for the girls, the organization of the event, and the fact that the students in their sessions seemed interested in what was being presented. The charts below display the overall responses from the presenters regarding their participation this year and in the future.



Impact of the Event

The presenters who completed the overall evaluation survey believed the event was most successful in exposing students to STEM topics and careers of which the students may not have otherwise been aware. Some of the survey respondents wrote:

- *I am a strong believer that students have to see the STEM activities in the university to get hands-on experience and that they might get motivated to follow the path.*
- *One of the best days of my year. I thoroughly enjoy working with the girls and supporting this event.*
- *I think the event has a significant impact on the students that participate in this event. It gets them exposed to various fields they can get involved in and the activities help grab their attention and get them excited about STEM fields.*
- *Its fun seeing the young women immerse themselves with unfamiliar subject matter in a hands-on setting.*
- *I love being part of this event and am happy BGSU continues to provide this worthwhile experience to young ladies.*
- *I truly enjoyed being a part of Women in STEM 2019. The event was well organized and ran smoothly from what we could tell. The girls and teachers in attendance were all excited to be there and ready to be engaged and learn!*
- *I enjoy the event but wish that I had longer than 45 minutes to complete our STEM project.*

Recommendations

The following recommendations are made based on the feedback from the evaluation surveys and input from project staff:

- **Continue with the combined paper overall and session evaluation survey at the end of the day.** While not all students completed each section of the evaluation, there was a good response rate with this method of evaluating the program. Many presenters appreciated not having to take the time at the end of their session to give out evaluations but still appreciate the feedback from their presentation. The combined evaluation sheet allows for feedback on the sessions without taking time from presenters.
- **Provide more information on presenters as a group.** Several presenters mentioned they would like to know more about the program as a whole and the other STEM fields represented as well as titles of other presentations.
- **Allow additional time in between presentations.** As some presentations are held in other locations on campus, more time should be allowed to travel from one place to another. As well, having a mini-tour of campus was appreciated and suggested for the future.

