

Northwest Ohio Symposium on Science, Technology, Engineering, and Mathematics Teaching

2016 Evaluation Report

December 2016

The Northwest Ohio Symposium on Science, Technology, Engineering, and Mathematics Teaching (NWO Symposium) is a regional conference held by the Northwest Ohio Center for Excellence in STEM Education (NWO) for STEM educators in northwest Ohio. The 13th annual NWO Symposium was held on November 19, 2016 at Bowling Green State University. The Symposium began at 7:30 A.M. and concluded at 3:40 P.M. Vendors were not included in the symposium for the second year in a row.

This year the same survey was administered to both attendees and presenters rather than separate surveys as in the past. The reason for this was to minimize the survey requests for presenters who presented and attended sessions. In the past these individuals would have been asked to complete two very similar surveys with only one or two questions that were different and as such created some confusion. Using only one survey eliminates this confusion and streamlines the evaluation process. The only information lost from this change is related to presenters willingness to present at future events.

This report summarizes the following information:

- Event attendance
- Event activities
- Analysis of the attendee perceptions of the event
- Recommendations for next year

Event Attendance

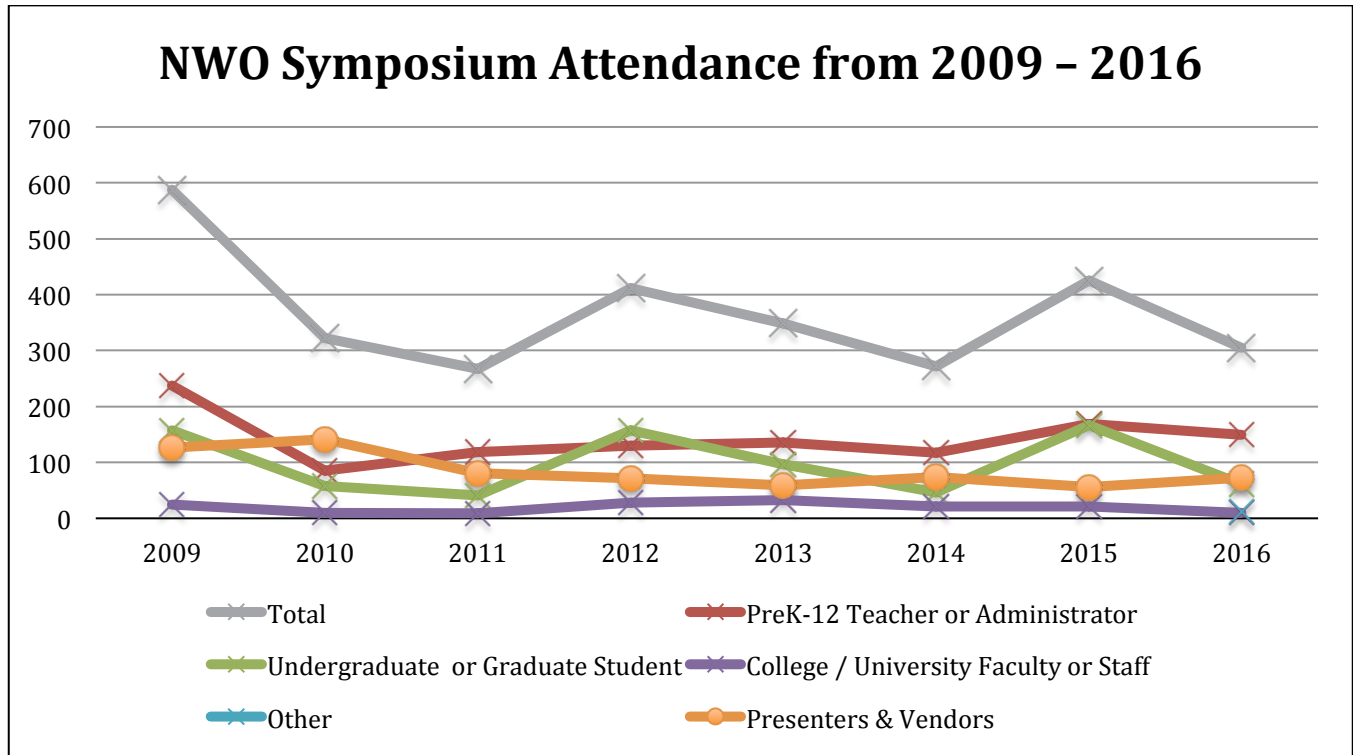
A total of 305 participants (attendees, presenters, and staff) attended the 2016 NWO Symposium. The table below displays a detailed summary of the attendance at the 2016 NWO Symposium as well the attendance numbers from the previous five NWO Symposia.

Participants	2011	2012	2013	2014	2015	2016
Attendees						
PreK-12 Teacher (or Retired Teacher)	118	130	136	117	166	145
Undergraduate or Graduate Student	41	157	97	46	166	61
College / University Faculty or Staff	9	28	33	21	21	10
PreK-12 Administrator (or Retired Administrator)	2	2	5	1	3	4
Other	4	2	11	1	6	5
Presenters & Vendors	81	71	59	74	56*	73*
NWO Staff & Volunteers	12	22	7	12	7	7
TOTAL	267	412	348	272	425	305

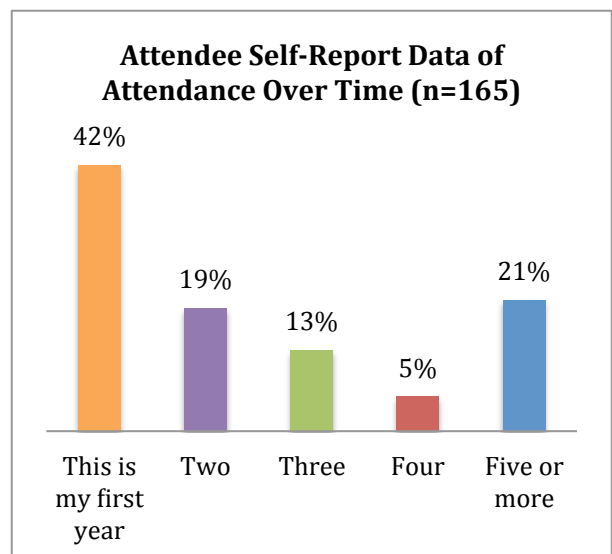
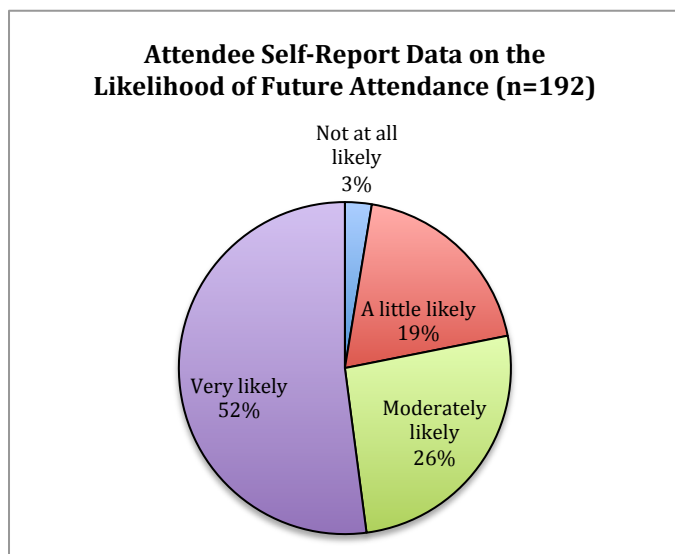
** Vendors were not included in the 2015 & 2016 Symposium's*

The total attendance at the 2016 NWO Symposium was lower than the attendance at the 2015 Symposium. The reason for this lower number could be related to multiple factors and should be explored further by the staff.

Attendance at the NWO Symposium has fluctuated heavily since 2010, when registration fees were first put in place. The figure below illustrates the trends in attendance for PreK-12 and pre-service teachers, higher education faculty, presenters/vendors, as well as for overall attendees. According to the figure, the strongest parallel to total attendance has been pre-service attendance; the two lines mirror each other almost perfectly. When total attendance was high in 2015, pre-service teachers made up almost 46% of the attendee population. This year, pre-service teachers made up just 27% of the attendee population. All other attendance categories have been mostly stable since the initial drop in attendance in 2010. NWO staff should consider the desired percentage of attendees from each category, and direct their recruiting efforts accordingly.



Most of the attendees the 2016 Symposium were attending the Symposium for the first time. The chart below details the self-reported data from the attendees who completed the online post evaluation survey and answered the question regarding their past participation. Additionally, the majority of attendees (who completed the online evaluation survey) said they were “very likely” or moderately likely” to participate in future symposia.



Most attendees reported learning about the Symposium by e-mail (39%), which is about the same as in 2015. Another significant portion (18%) of attendees learned about the Symposium from a friend/colleague. The table below shows the percentage of attendees who reported learning about the Symposium by each of the nine methods listed on the survey. Attendees were able to select all the ways they heard about the symposium.

Method	Percentage of Participants (n=282)
E-mail message from NWO/COSMOS	39% (111)
A friend or colleague	18% (52)
NWO newsletter	12% (33)
University professor/instructor	10% (29)
Postcard	9% (26)
COMP, CAMP or ASSETS Grant	8% (21)
Ohio STEM Learning Network (OSLN) website	2% (5)
Black Swamp Math Teacher Circle	2% (5)

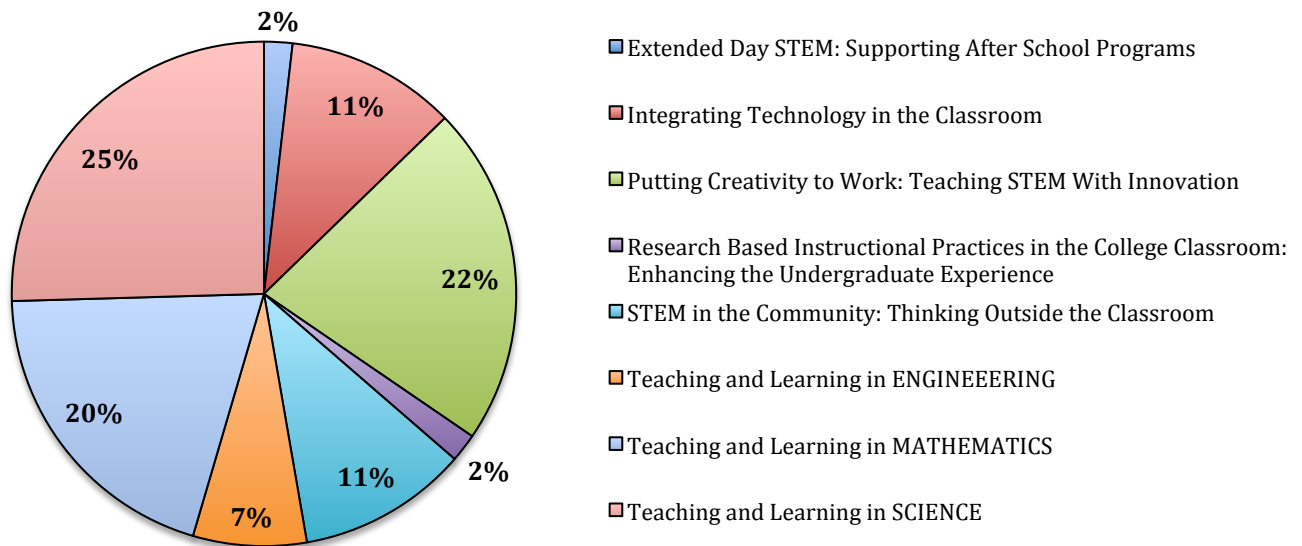
Event Activities

The 2016 NWO Symposium began with a keynote address from BGSU Professor Emeritus, Dr. Jodi Haney titled: "STEM Assessment: When the whole is greater than the sum of its parts!" and continued with five one-hour blocks of eight different content strands. The 2016 Symposium included one new strand titled "Extended Day STEM: Supporting After School Programs" and was a partnership between NWO and the Northwest Ohio Afterschool Alliance. The schedule for the day is below.

7:30 AM – 8:30 AM	Registration (Outside Olscamp Hall: Room 101)
8:00 AM – 9:45 AM	Refreshments (Olscamp Hall: Room 101)
8:30 AM – 9:45 AM	Welcome and Keynote Address
10:00AM – 10:50 AM	Block A
11:00 AM – 11:50 AM	Block B
11:50 AM – 12:40 PM	Lunch
12:50 PM – 1:40 PM	Block C
1:50 PM – 2:40 PM	Block D
2:50 PM – 3:40 PM	Block E

A total of 55 sessions were offered at the 2016 Symposium after two sessions were cancelled due to scheduling conflicts for the presenters. The chart below shows the breakdown of sessions by strand. Most sessions (25%) were in the strand "Teaching and Learning in SCIENCE". Of the sessions offered, only three were 'double sessions', meaning they lasted for two hours instead of one. This is a 50% reduction of double sessions from the previous year and due in part to the number of presentation proposals received in 2016, the goal to accept as many presenters as possible and the recommendation from the 2015 Symposium evaluation report. A full list of sessions is available in the 2016 NWO Symposium program which can be found on the NWO website.

NWO Symposium Sessions by Strand (n = 55)

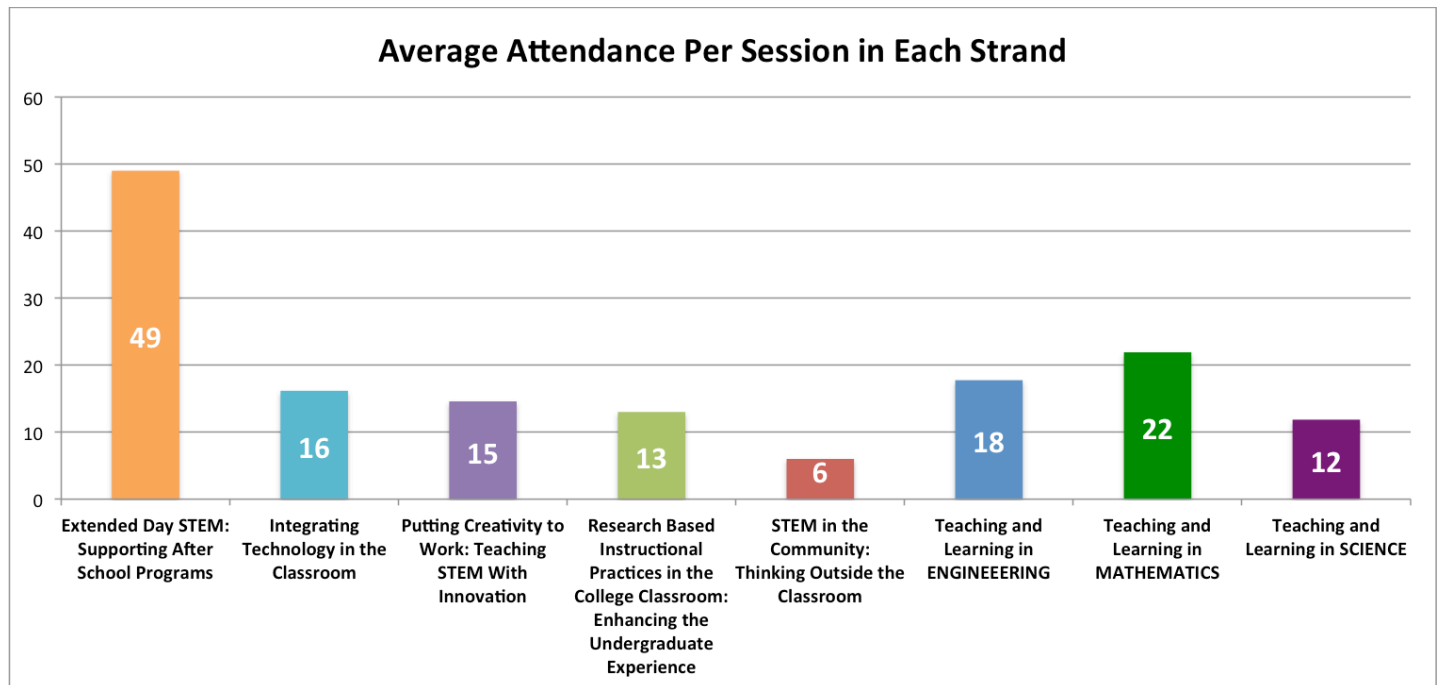
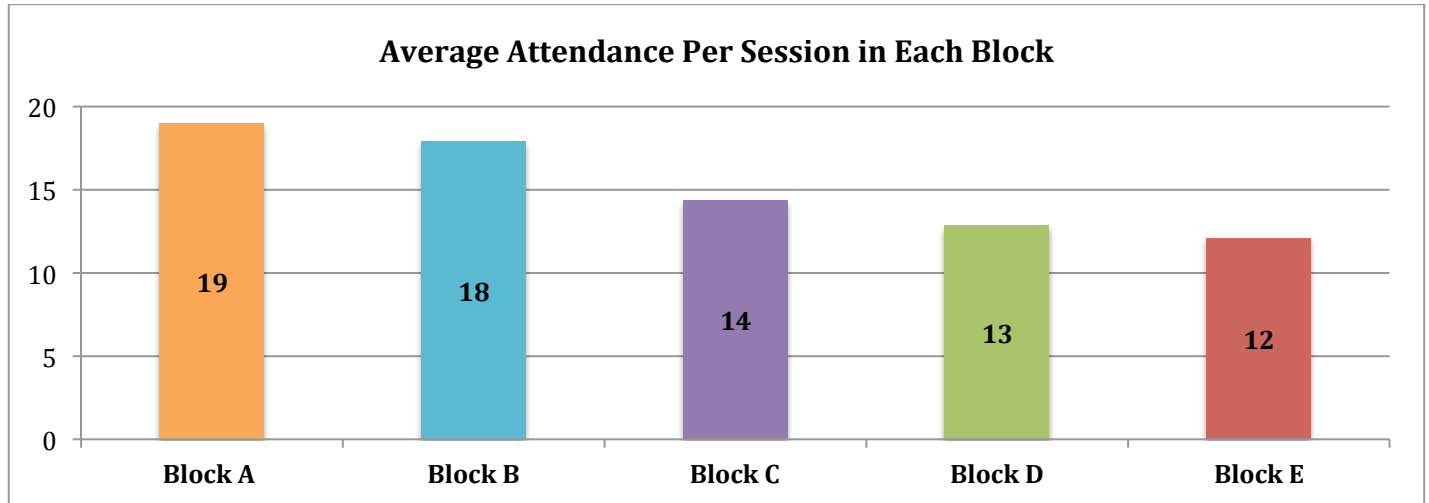


Evaluation of the 2016 NWO Symposium

The purposes of the evaluation was to: (1) determine the quality and impact of the NWO Symposium, primarily indicated by the participants' perceptions regarding the value and usefulness of the Symposium, (2) document changes made to the 2016 event, and determine the impact of those changes on the quality of the NWO Symposium, and (3) identify ways in which future NWO Symposia might be improved. These purposes were accomplished by analyzing data from the paper session evaluation surveys and the online evaluation survey sent to presenters and attendees. The response rates were 65% for the online survey. In total 553 individual session evaluation responses were collected. Presenters were sent an individual summary of their session evaluation data in November 2016.

Session Attendance at the 2016 Symposium

In an effort to increase attendance at all sessions, fewer sessions were offered during each block of the day. Historically, attendance in the last block of the day has been very low as attendees leave early from the symposium. Below are charts detailing the average attendance per session in each block of the day as well as by session strand throughout the day.

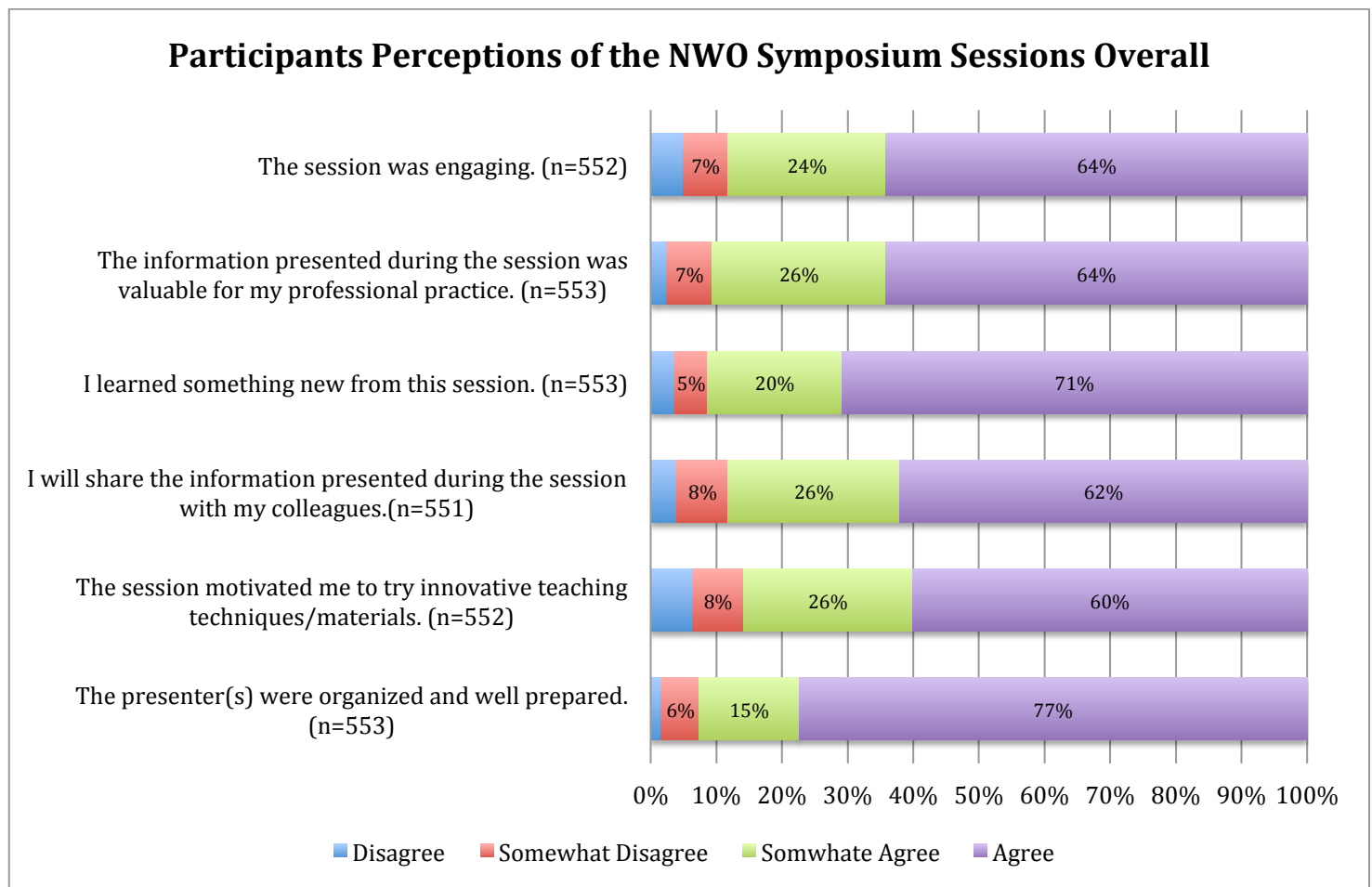


Attendees' Perceptions of the 2016 NWO Symposium Sessions

Overall, the responses on the session evaluation surveys indicated that attendees perceived the sessions to be engaging and valuable. The table below shows the average score for each item on the survey when all of the sessions are taken together. The chart below provides a visual the overall attendee perceptions of the symposium when all of the sessions are taken together. In total 553 session evaluation forms were collected from attendees.

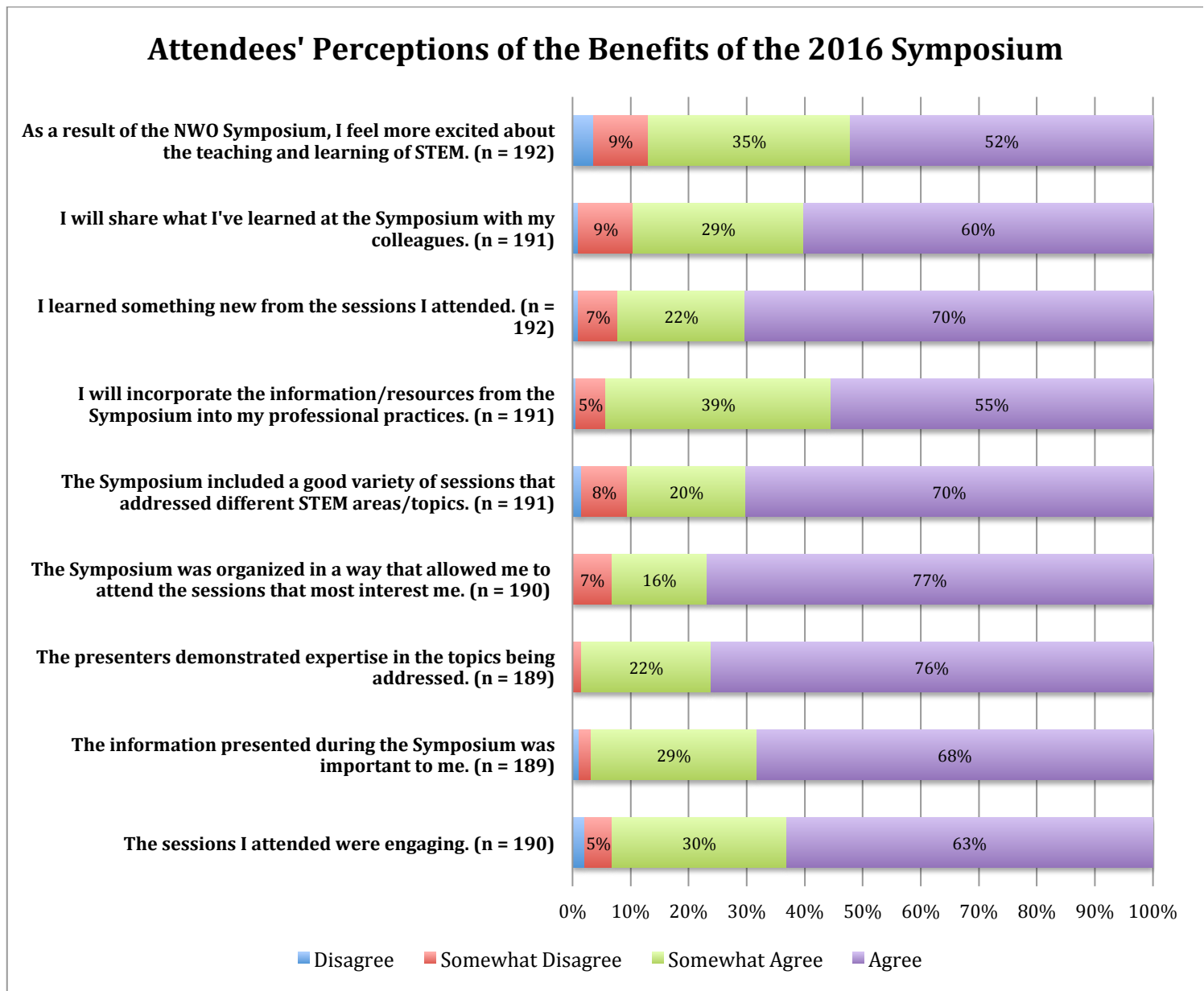
Survey Item	Average Score (from 55 sessions)
The session was engaging.	3.47
The information presented during the session was valuable for my professional practice.	3.52
I learned something new from this session.	3.59
I will share the information presented during the session with my colleagues.	3.46
The session motivated me to try innovative teaching techniques/materials.	3.40
The presenter(s) were organized and well prepared.	3.68
TOTAL	3.52

Note: 1 = Disagree, 2 = Somewhat Disagree, 3 = Somewhat Agree, 4 = Agree

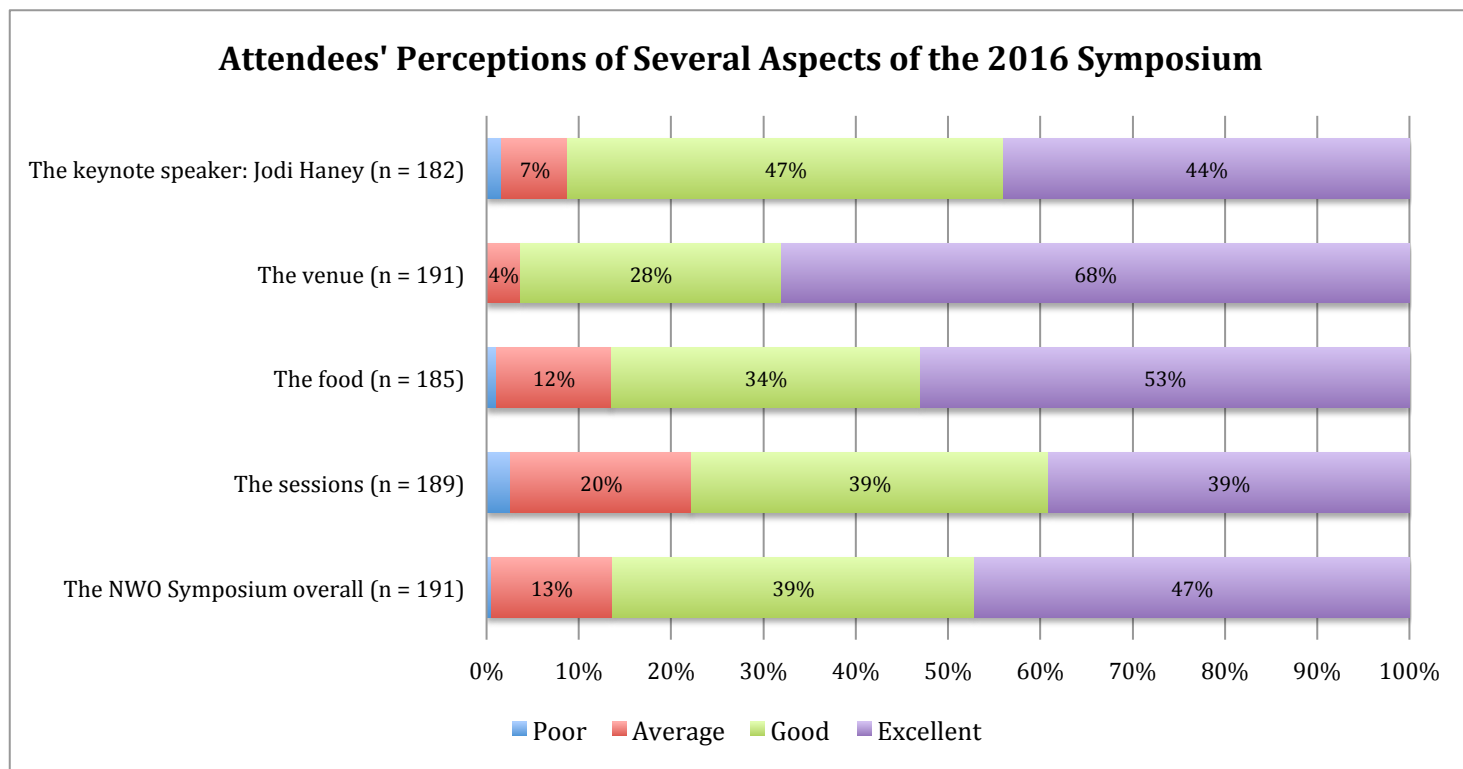


Attendees' Perceptions of the 2016 NWO Symposium Overall

The online attendee evaluation survey was available to participants starting at the end of the Symposium and remained open for a little over two weeks with several reminders sent to the participants requesting that they complete the survey. In total 196 of the possible 298 attendees and presenters completed the online survey, a response rate of 65%. The responses to the online evaluation survey indicated that the attendees perceived the 2016 NWO Symposium to be a high-quality professional development experience. The chart below shows the responses to some of the items on the survey.



Attendees also ranked several factors of the Symposium, including the keynote, food, venue, and the NWO Symposium overall. The responses to these items are shown below. The keynote was rated lower than in the previous year (72% excellent in 2015 to 44% excellent in 2016) from roughly the same number of respondents (189 in 2015 to 182 in 2016). However, it is important to note that when you look at the keynote from 2015 to 2016 they total percentages of the two highest rating categories (excellent and good) is about the same (96% combined in 2015 and 91% in 2016). The food, venue, and symposium overall ratings stayed about the same as in the previous year.



Conclusions and Suggestions for the 2017 NWO Symposium

The overall perception of the 2016 NWO Symposium was positive. Attendees perceived the event to be valuable and applicable to their professional practice, and presenters perceived the event to be valuable and appreciated the opportunity to share their work. The individual sessions were rated highly by the attendees, and the keynote address received many positive comments. Higher attendance overall and in the sessions seems to have positively impacted the perceptions of the presenters and attendees.

The NWO staff should consider the following recommendations in regard to attendance:

- Continue to offer between 10 – 13 sessions per block with less than 10 sessions offered in the last block of the day. The lower number of sessions offered in each block definitely contributed to higher attendance in each session and the overall positive ranking by the presenters.
- Target recruiting efforts to match the desired participation from preK-12 educators, pre-service teachers, and higher education faculty/staff.
- Consider reducing the number of session strands to remove strands that did not have a high number of sessions and/or are similar to other strands to reduce confusion.

NWO staff should also consider the following general recommendations for the 2017 Symposium:

- Continue to reduce the number of double sessions. Fewer double sessions were offered this year but the staff should consider whether to allow presenters to apply for double sessions at all. Fewer or no double sessions would allow more individual presenters to participate.
- Continue with the short list of presentations on the event day and not printing the large program. This had a positive impact on the budget and did not appear to be a problem for attendees.
- While the staff reduced the breakfast option to just morning beverages, the cost of lunch is rather high. The lunch was enjoyed by most attendees but is not in the budget for the conference. NWO staff should consider a cheaper lunch and keeping the price of registration the same or keeping lunch the same and increasing the registration fee.
- The greatest advertising expense comes from printing and mailing postcards so it is important to note that only 26 people (9%) said they heard about the symposium from this source. Of those 26, 14 also heard about the symposium from the NWO email messages. Which means that of the 196 people who attended the symposium and completed the survey, only 6% learned about the symposium by the postcard only. It is important that the staff examine the cost/benefit ratio on this advertising option for future symposia.