

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

2017 Evaluation Report

December 2017

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 14th annual NWO Symposium was held on November 18, 2017 at Bowling Green State University. The Symposium began at 9:00 AM and concluded at 2:35 PM.

This report summarizes the following information:

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

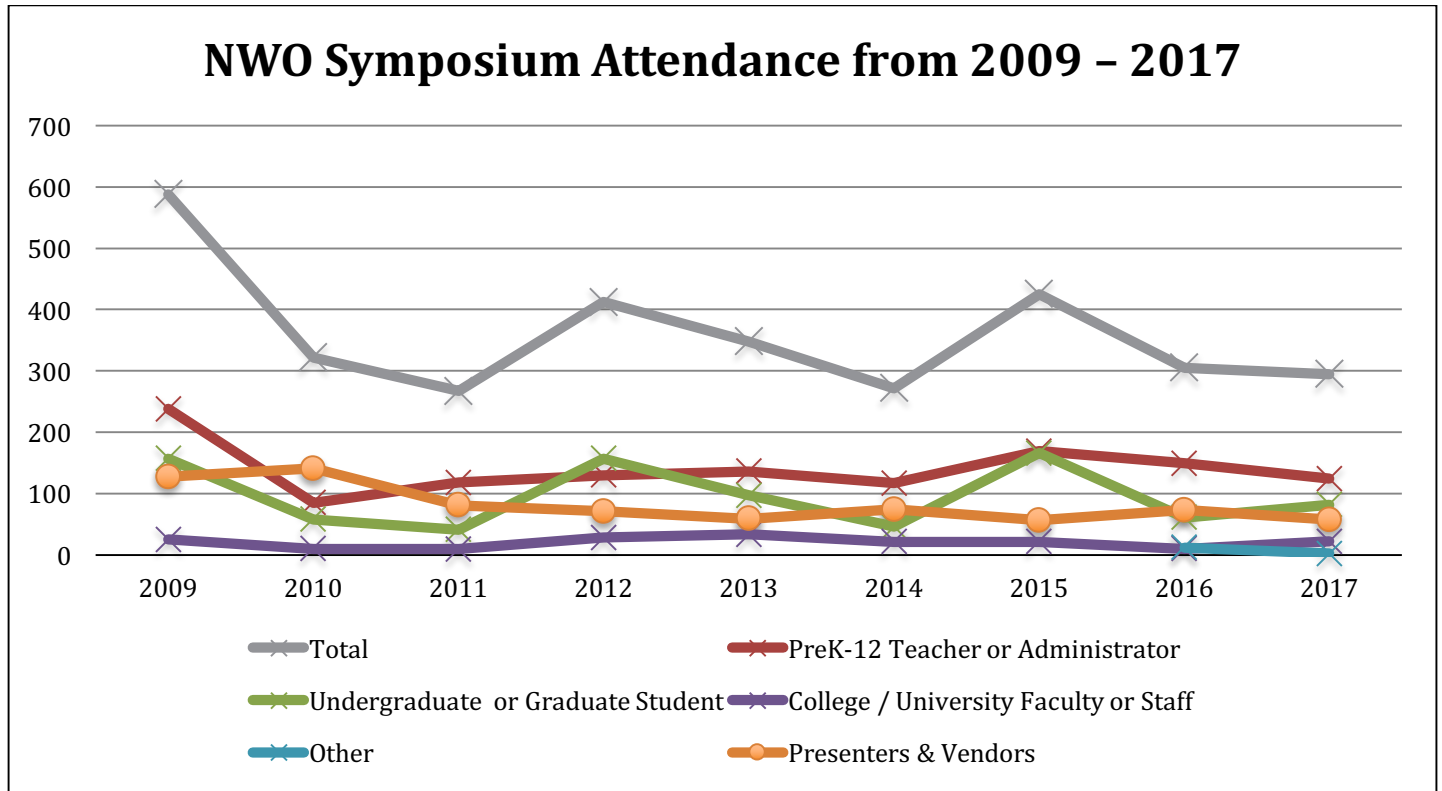
Event Attendance

A total of 295 participants (attendees, presenters, and staff) attended the 2017 NWO Symposium. The table below displays a detailed summary of the attendance at the 2017 NWO Symposium as well the attendance numbers from the previous five NWO Symposia.

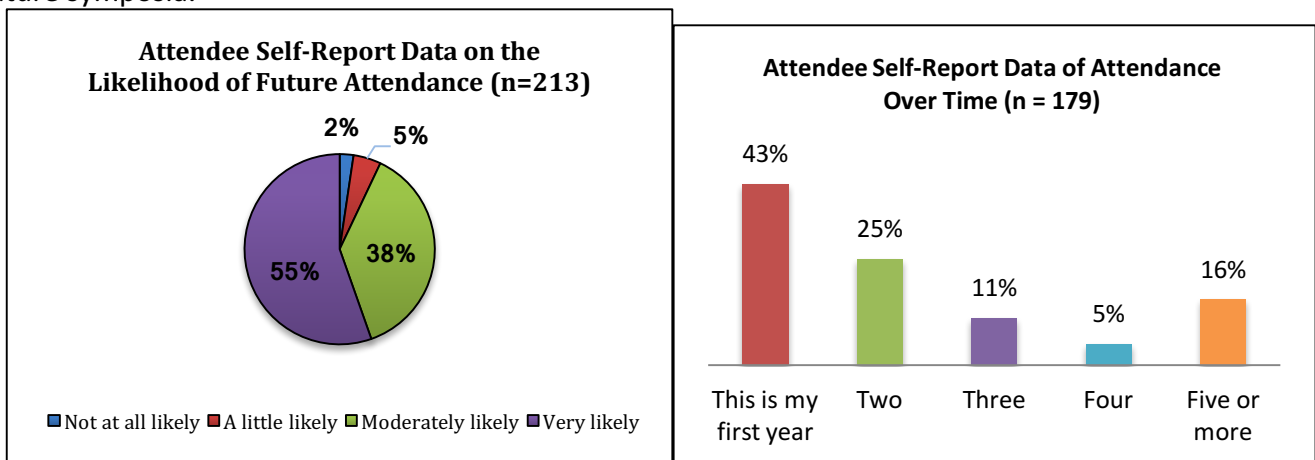
Participants	2011	2012	2013	2014	2015	2016	2017
Attendees							
PreK-12 Teacher (or Retired)	118	130	136	117	166	145	124
Undergraduate or Graduate Student	41	157	97	46	166	61	82
College / University Faculty or Staff	9	28	33	21	21	10	22
PreK-12 Administrator (or Retired)	2	2	5	1	3	4	2
Other	4	2	11	1	6	5	2
Presenters & Vendors	81	71	59	74	56*	73*	57*
NWO Staff & Volunteers	12	22	7	12	7	7	6
TOTAL	267	412	348	272	425	305	295

** Vendors were not included in the 2015, 2016, & 2017 Symposium.*

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 28% 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.



Forty-three percent of the attendees the 2017 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.

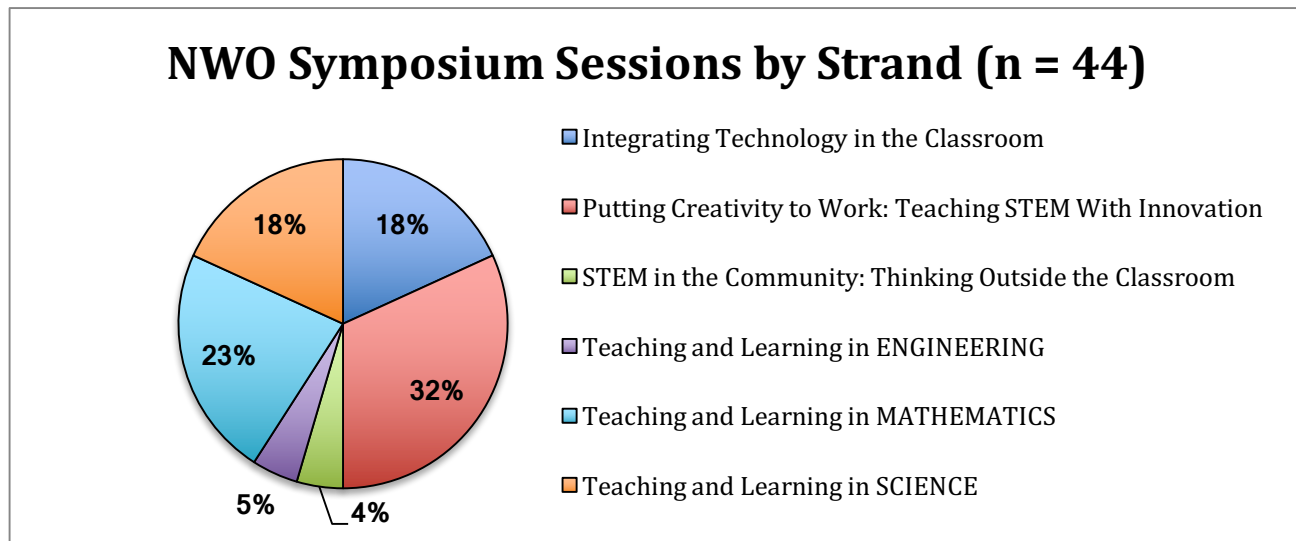


Event Activities

For the 2017 Symposium, the format was changed to move the keynote presentation to the lunch block. The 2017 keynote address was given by BGSU Associate Professor, Dr. Gabriel Matney and was titled: "STEM Learning: The Power and Promise of Developing a Conjecturing Modality". The schedule for the day is below.

8:00 AM – 8:45 AM	Registration
9:00 AM – 9:50 AM	Block A
10:00 AM – 10:50 AM	Block B
11:00 AM – 11:50 AM	Block C
12:00 PM – 1:30 PM	Lunch & Keynote Presentation
1:45 PM – 2:35 PM	Block D

A total of 44 sessions were offered at the 2017 Symposium after four sessions were cancelled due to scheduling conflicts or illness for the presenters. The chart below shows the breakdown of sessions by strand. Most sessions (32%) were in the strand "Putting Creativity to Work: Teaching STEM with Innovation". A full list of sessions is available in the 2017 NWO Symposium program which can be found on the NWO website.

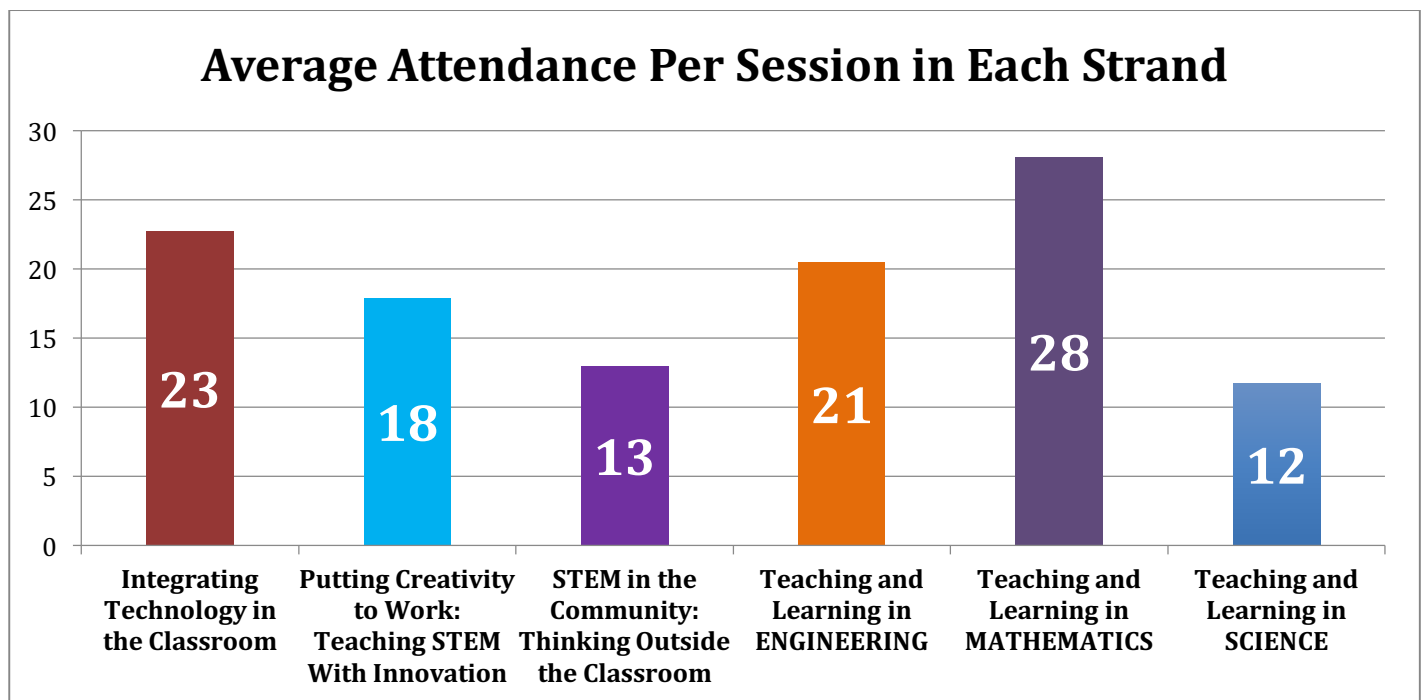
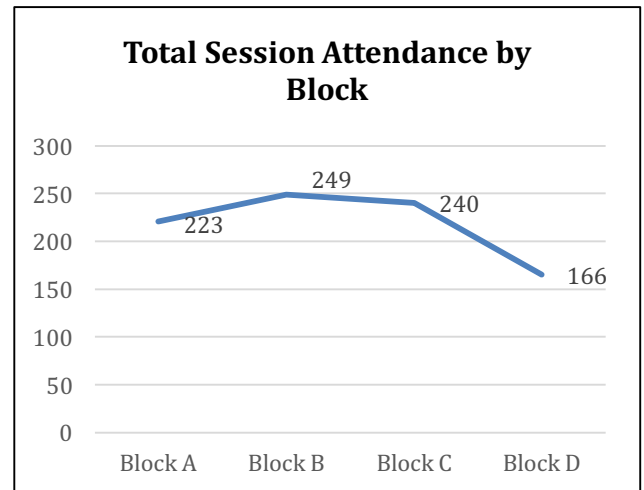
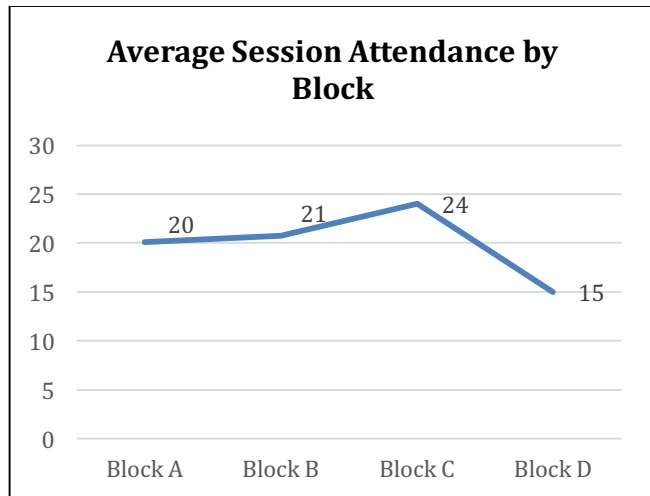


Evaluation of the 2017 NWO Symposium

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 2017 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 rate was 74% for the online survey. In total 616 individual session evaluation responses were collected. Presenters were sent an individual summary of their session evaluation data in November 2017.

Session Attendance at the 2017 Symposium

In an effort to increase attendance at all sessions, fewer sessions were offered during each block of the day. For the first time in Symposium history, double sessions were not offered. 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.

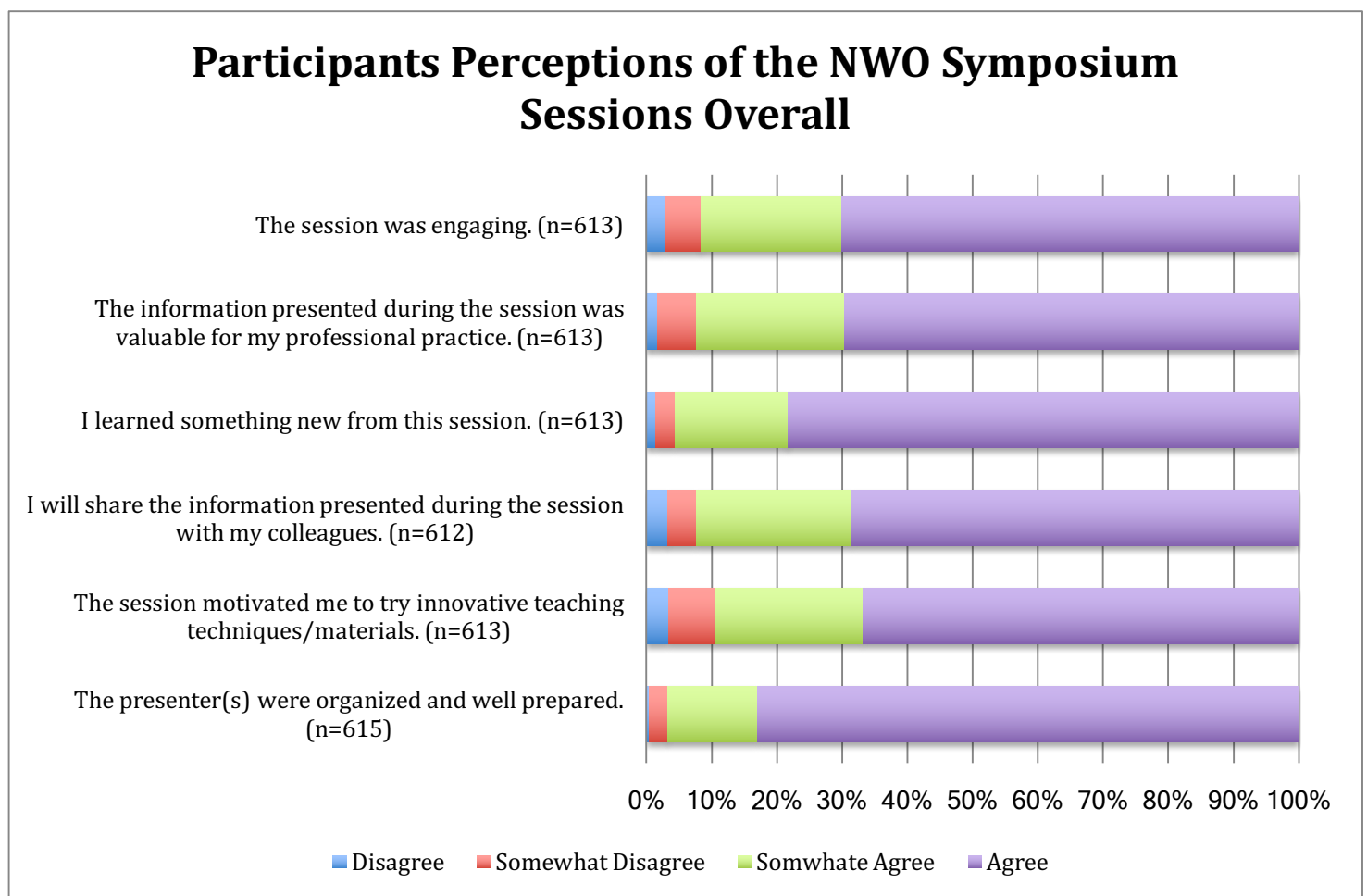


Attendees' Perceptions of the 2017 NWO Symposium Sessions

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 of the overall attendee perceptions of the symposium when all of the sessions are taken together.

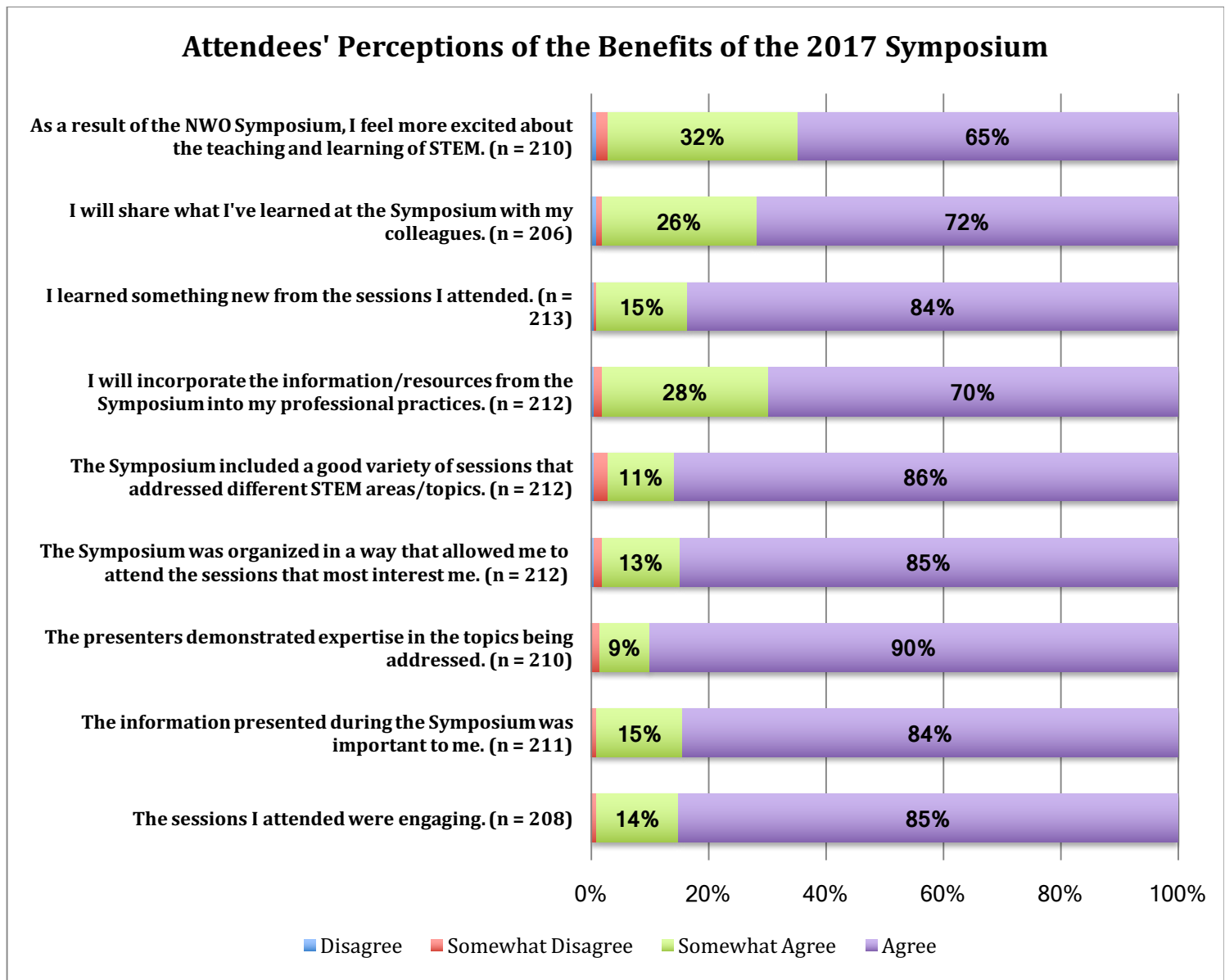
Survey Item	Average Score (from 44 sessions)
The session was engaging.	3.59
The information presented during the session was valuable for my professional practice.	3.60
I learned something new from this session.	3.72
I will share the information presented during the session with my colleagues.	3.58
The session motivated me to try innovative teaching techniques/materials.	3.53
The presenter(s) were organized and well prepared.	3.79
TOTAL	3.64

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

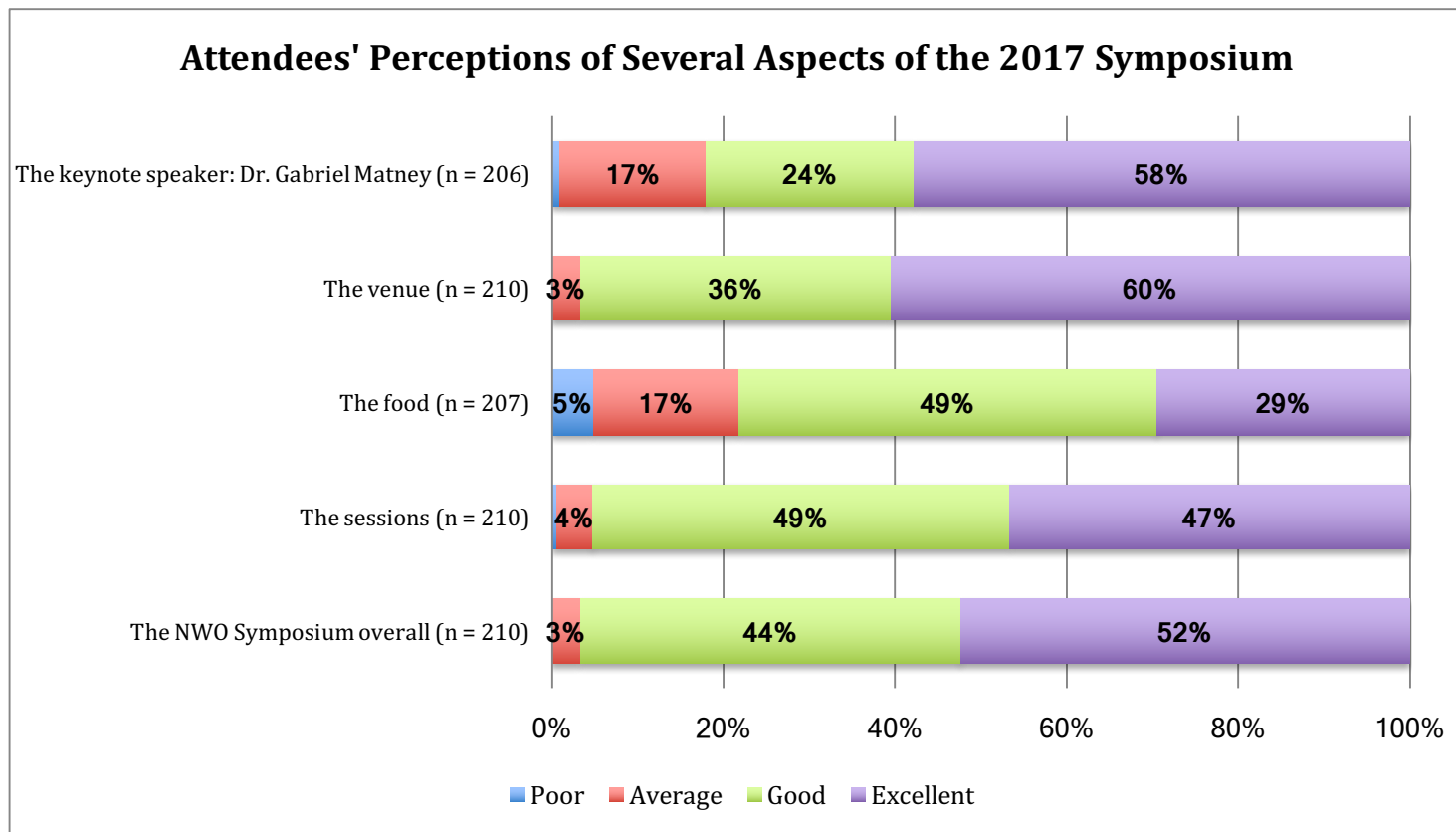


Attendees' Perceptions of the 2017 NWO Symposium Overall

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 219 of the possible 295 attendees and presenters completed the online survey, a response rate of 74%. The responses to the online evaluation survey indicated that the attendees perceived the 2017 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 slightly higher than in the previous year (44% excellent in 2016 to 58% excellent in 2017). The venue and symposium overall ratings stayed about the same as in the previous year. The food rating is down from last year (87% good or excellent in 2016 to 78% good or excellent in 2017). This lower rating is likely a result of the lower cost meal that was chosen to help save money in the symposium budget.



Conclusions and Suggestions for the 2017 NWO Symposium

The overall perception of the 2017 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 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 – 12 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.

NWO staff should also consider the following general recommendations for the 2018 Symposium:

- 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 lunch was rated slightly lower, there were also several people that commented positively about the quality of the lunch. The lower cost of the lunch positively impacted the event budget. Several people commented that they wanted beverages in the morning. Staff did acquire a donation for coffee in the morning, however, in the future it might be worth securing this in advance and advertising it to the attendees. Additionally, a better location might be needed for the donated beverages so they are more easily accessible.
- Some people commented about having to go between two buildings as an issue with the event. This is likely due to the extreme weather on the day of the event but it is worth exploring the option of holding all sessions in Olscamp Hall, regardless of the format of the available rooms.
- Overwhelmingly, participants are hearing about the event from an NWO email or newsletter (68%). This is the most cost efficient method of advertising and staff should continue to use these methods for advertising while also exploring other low cost avenues for advertisement.
- Many attendees commented on the format of the day and how the new schedule, with the keynote during lunch and the shorter day, was a positive change to the event. Staff should consider keeping a similar format in 2018.

NWO Symposium 2017 Session Evaluation

Please answer the questions below regarding each session you attended today.
Return at the end of the day to the check-in table located outside of Olscamp Hall Room 101.

Please **circle** the session you attended

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12				
												Disagree	Somewhat Disagree	Somewhat Agree	Agree
The session was engaging.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information presented during the session was valuable for my professional practice.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned something new from the session.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will share the information presented during the session with my colleagues.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The session motivated me to try innovative teaching techniques/materials.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The presenter(s) were organized and well prepared.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please **circle** the session you attended

B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12				
												Disagree	Somewhat Disagree	Somewhat Agree	Agree
The session was engaging.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information presented during the session was valuable for my professional practice.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned something new from the session.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will share the information presented during the session with my colleagues.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The session motivated me to try innovative teaching techniques/materials.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The presenter(s) were organized and well prepared.												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please **circle** the session you attended

C1	C2	C4	C5	C6	C7	C8	C10	C11	C12				
										Disagree	Somewhat Disagree	Somewhat Agree	Agree
The session was engaging.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information presented during the session was valuable for my professional practice.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned something new from the session.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will share the information presented during the session with my colleagues.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The session motivated me to try innovative teaching techniques/materials.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The presenter(s) were organized and well prepared.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please **circle** the session you attended

D1	D2	D3	D4	D5	D6	D7	D8	D10	D11	D12				
										Disagree	Somewhat Disagree	Somewhat Agree	Agree	
The session was engaging.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The information presented during the session was valuable for my professional practice.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I learned something new from the session.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I will share the information presented during the session with my colleagues.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The session motivated me to try innovative teaching techniques/materials.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The presenter(s) were organized and well prepared.										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

NWO Symposium Evaluation Survey

Thank You For Attending the 2017 NWO Symposium!

In order to better plan for future NWO activities, we would be grateful to receive your comments on the NWO Symposium. Kindly complete this short questionnaire to share your views with us.

After you complete the evaluation, you will be directed to another screen that will provide a form to complete for contact hours and the raffle prize drawing. **You must complete this second form with your name and email in order to receive a contact hour certificate (CEUs) for attending the event and to be entered into the NWO/COSMOS raffle for a \$25 Amazon.com gift card! The certificate will be emailed to you in the next couple of weeks.** Please be assured that your evaluation answers and your name will not be linked.

1. Which of the following best describes your current status?

- PreK-12 teacher
- PreK-12 administrator
- Retired PreK-12 teacher or administrator
- University/College faculty or staff
- Undergraduate student
- Graduate student
- Informal educator
- For-profit education organization staff
- Other (please specify)

If you are a teacher (of any grade), please answer the next five questions. If you are not a teacher, please skip ahead to question 7.

2. What STEM subjects do you teach? Choose all that apply.

- Science
- Mathematics
- Engineering
- Technology
- None of these

What other subjects do you teach?

3. How many years (including this year) have you been teaching?

4. Please choose the category that best represents the grade level(s) you teach.

If you absolutely cannot fit yourself into one of the categories, please choose "other" and tell us the grade levels you teach.

- PreK to 4
- 5 to 8
- 9 to 12
- College/University
- Other (please specify)

Everyone should answer the remaining questions.

5. How many years (counting this one) have you attended the NWO Symposium?

- This is my first year
- Two
- Three
- Four
- Five or more

6. What in particular were you hoping to get out of your participation at the NWO Symposium?

7. Please indicate how you learned about the NWO Symposium. (Choose all that apply).

- E-mail message from NWO/COSMOS
- University professor/instructor (if you are a student)
- A friend or colleague
- NWO newsletter
- Black Swamp Math Teacher Circle
- COMP or ASSETS Grant
- Ohio STEM Learning Network (OSLN) website
- Other (please specify)

8. Which of the following types of social media do you use? (Choose all that apply)

Facebook

Twitter

Pinterest

YouTube

Other (please specify)

Tell Us What You Think!

9. For the statements below, please choose the category that best represents your level of agreement/disagreement.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree	N/A
The sessions I attended were engaging.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information presented during the Symposium was important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenters demonstrated expertise in the topics being addressed.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Symposium was organized in a way that allowed me to attend the sessions that most interest me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Symposium included a good variety of sessions that addressed different STEM areas/topics.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to explain your responses above (especially if you were thinking of a particular reason or example when responding).

10. For the statements below, please choose the category that best represents your level of agreement/disagreement.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree
I will incorporate the information/resources from the Symposium into my professional practices (e.g., teaching, administration, etc.).	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learned something new from the sessions I attended.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will share what I've learned at the Symposium with my colleagues.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a result of the NWO Symposium, I feel more excited about the teaching and learning of STEM.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to explain your responses above (especially if you were thinking of a particular reason or example when responding).

11. Please tell us your perceptions of the NWO Symposium sessions in your own words. You can include comments (good or bad) about the sessions, as well as your perceptions of the value and applicability of the information presented during the Symposium sessions.

NWO Symposium Evaluation Survey

We Want To Know Your Opinion!

Please give us your opinion about the different aspects of the NWO Symposium, and how they can be improved for next year.

12. How would you rate the following aspects of the NWO Symposium?

	Poor	Average	Good	Excellent
The keynote speaker: Dr. Gabriel Matney	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The sessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The venue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The NWO Symposium overall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What comments do you have regarding your responses above?

13. How likely is it that you will attend the NWO Symposium next year?

- Not at all likely
- A little likely
- Moderately likely
- Very likely

14. What educational issues/topics would be beneficial to address at the NWO Symposium next year?

15. What other comments/suggestions do you have about the NWO Symposium that you haven't already mentioned?

Thank you so much for completing this survey! Your responses will help us to create the best possible learning environment for all participants at the NWO Symposium.

Once you click "Done", you will be redirected to the page with contact hours and raffle prize drawing information.