

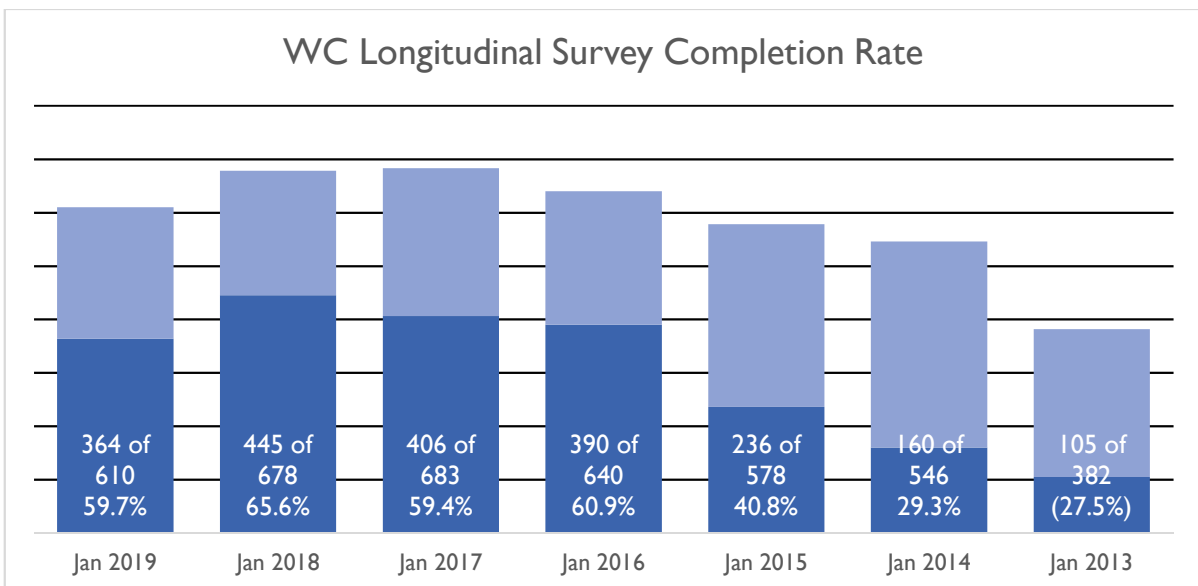


2013-2019 Working Connections longitudinal surveys summary September 2019

Each January, the National Convergence Technology Center (CTC) conducts on-line longitudinal surveys on attendees of past Summer Working Connections faculty professional development events. In a “rolling” format, these surveys contacted attendees 6, 18, 30, 42, and 54 months after the summer event to learn what attendees did with what they learned in their tracks and how their professional development impacted students. As a result, attendees were contacted multiple times each January – for example, an attendee at Working Connections in 2015 would get a longitudinal survey in January 2016, 2017, 2018, and 2019 so there will be some overlap and repetition when looking at results across the different survey years. See the chart below – note that some of the Working Connections events surveyed during the current 2013-2019 reporting period were held before the CTC’s center grant award in fall 2012.

	2018 Tex	2018 FL	2017 Tex	2017 FL	2017 MI	2016 Tex	2016 FL	2015 Tex	2015 FL	2014 Tex	2014 WI	2014 FL	2013 Tex	2013 MI	2013 FL	2012 Tex	2011 Tex	2010 Tex	2009 Tex
January 2019 survey	X	X	X	X	X	X	X	X	X	X	X	X							
January 2018 survey			X	X	X	X	X	X	X	X	X	X	X	X	X				
January 2017 survey						X	X	X	X	X	X	X	X	X	X	X			
January 2016 survey								X	X	X	X	X	X	X	X	X	X		
January 2015 survey										X	X	X	X	X	X	X	X	X	
January 2014 survey													X	X	X	X	X	X	X
January 2013 survey																X	X	X	X

Efforts were made to increase the survey response rate (e.g. introducing the idea at Summer Working Connections, reinforcing on the event wiki page, sending multiple reminder emails before and after the surveys go out). Those adjustments were successful, going from 27.5% response rate (105 responses out of 382 surveys) in January 2013 to 59.7% response rate (364 out of 610) in January 2019.



The CTC will be reducing the survey scope starting January 2020 from the last five years of Working Connections attendance to just the last three years. Note also that the longitudinal survey template was validated by Dr. Mary Moriarty in summer 2019, a process that included some recommended changes that will be implemented in January 2020.

Responses from the longitudinal surveys have been consistent over the years.

* The question **“Were you already teaching this subject prior to Working Connections?”** shows that a majority of attendees historically select an IT track topic that they were not already teaching, thereby teaching skills to their students that they might not otherwise learn. From 2014 to 2019, on average, 74% of attendees selected an unfamiliar topic.

	Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Average n=2001
NO	73.0%	74.5%	74.9%	75.0%	67.6%	76.8%	73.6%
YES	27.0%	24.8%	25.1%	25.3%	30.0%	22.5%	25.8%

* The question **“Are you teaching this subject in the current school year?”** shows that the education faculty attendees receive – even in a discipline like IT that evolves so rapidly – can impact the classroom for years after the Working Connections event. From 2014 to 2019, on average, 58% of attendees were still using what they learned.

	Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Average n=2001
NO	44.9%	49.0%	42.8%	30.7%	31.4%	44.0%	40.5%
YES	55.1%	49.3%	57.2%	69.5%	64.7%	54.6%	58.4%

As requested by the CTC’s National Visiting Committee, the CTC looked at the subset of longitudinal survey respondents who answered “NO” to “Were you already teaching this subject prior to Working Connections?” and YES to “Are you teaching this subject area in the current school year?” This shows a further data point regarding the lasting classroom impact of IT topics that have a direct link to Working Connections events. The table below comes from the January 2019 longitudinal survey.

WC year/venue	still teaching topic + wasn't teaching prior to WC	total respondents	%
2014	5	42	12%
2014 S	3	6	50%
2014 N	3	18	17%
2015	14	42	33%
2015 S	4	14	29%
2016	9	51	18%
2016 S	5	14	36%
2017	12	36	33%
2017 S	7	27	26%
2017 N	8	14	57%
2018	22	68	32%
2018 S	5	12	42%
total	97	344*	28%

* This total does not include the 20 attendees of the “Leadership Academy” best practice tracks.

Below is a table summarizing the track topics with the most longevity per the January 2019 longitudinal survey.

Track topic	respondents still teaching topic + wasn't teaching prior to WC	WC year
vSphere 5.5/6/6.5	17	2014, 2014 S, 2015, 2015 S, 2016, 2017, 2018
Preparing to Teach the Internet of Things	12	2017, 2017 N, 2018
Python Scripting	11	2015, 2017 N, 2017 S, 2018 S
Amazon Web Services	8	2016 S, 2017 S
CompTIA CySA/CSA	8	2017, 2018
Big Data Analysis and Visualization	6	2018
Windows Server	5	2016 S, 2017 S, 2018 S

* The question **“Have you created any new programs (i.e. degrees, certificates, new specializations or tracks) using what you learned at Working Connections?”** shows the ongoing impact of Working Connections beyond the individual classroom. In many cases, what attendees learned also shaped new program offerings. From 2014 to 2019, on average, 18% of attendees reported new programs having been created.

	Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Average n=2001
NO	84.4%	79.8%	82.7%	81.6%	73.8%	77.5%	80.0%
YES	14.2%	18.1%	17.3%	18.4%	24.0%	18.6%	18.4%

* The question **“Since Working Connections, how many sections have you taught in this subject area?”** shows the longevity of Working Connections impact. From 2014 to 2019, survey respondents reported 6062 duplicated sections taught using what they learned at Working Connections.

	Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Total n=2001
	1191	1439	1100	1353	660	319	6062

That 6062 number goes up considerably if you look even further into past Working Connections longitudinal surveys prior to the CTC’s national grant and this reporting period. The first survey was conducted in January 2008 and asked questions about Working Connections events in 2005, 2006, and 2007. If you include all of the cumulative longitudinal legacy results dating back to that first 2008 survey, 7529 sections have been impacted by Working Connections.

* The longitudinal surveys also regularly asked **“Using the skills you developed at Working Connections, what teaching improvements did you incorporate into your classes?”** On average, from 2014 to 2019, attendees most often reported updating course materials (63%) and creating/updating classroom exercises (55%).

	Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Average n=2001
UPDATED COURSE MATERIALS	61.1%	57.5%	65.0%	70.0%	63.5%	58.2%	62.5%
CHANGE AND/OR UPDATE EXAM	29.0%	24.6%	34.6%	35.8%	28.1%	28.7%	30.1%
CREATE AND/OR UPDATE EXERCISES	54.5%	50.0%	59.3%	60.0%	58.7%	49.7%	55.4%
CHANGE THE WAY INFO DELIVERED	47.9%	40.8%	45.8%	43.4%	48.6%	43.8%	45.0%

* But perhaps the best indicator of classroom and program impact comes from the question **“Since Working Connections, how many students have you taught in this subject area?”** There will be some duplication in these numbers since we contact the same Working Connections attendee cohort more than once, but the numbers are sizable. From 2014 to 2019, survey respondents reported 92,291 students taught using what faculty learned at Working Connections.

Jan 2019 survey n=364	Jan 2018 survey n=445	Jan 2017 survey n=406	Jan 2016 survey n=390	Jan 2015 survey n=236	Jan 2014 survey n=160	Total n=2001
18103	22430	15078	18639	12545	5496	92291

As with the “sections” question above, this 92,291 number goes up considerably when you include all of the cumulative longitudinal results dating back to the first 2008 survey. Since then, Working Connections has impacted 129,124 students.

Special best-practice Working Connections tracks

Starting in 2015, the National CTC began offering a special best-practice track at Summer Working Connections in Texas to provide a deep-dive into organizational and pedagogical processes and strategies – many developed by the National CTC – to help strengthen programs and improve the classroom experience. This track was called “The Think Tank” in 2015, but in 2016 and 2017 the name was changed to “Leadership Academy.”

In 2018 and 2019, the annual on-line longitudinal Working Connections surveys each January also included attendees of the two “Leadership Academy” best-practice tracks. A key element of evaluating the impact of those tracks was the status of customized goals each attendee created at the conclusion of Working Connections in 2016 and 2017. (The 2015 “Think Tank” attendees did not create goals so those results are not included in this summary report.) The idea was for each “Leadership Academy” attendee to self-select specific institutional goal, which the CTC would then track via the January longitudinal surveys.

Note also that the January 2017 longitudinal survey of the 2016 “Leadership Academy” attendees was not conducted with an on-line poll; instead, a one-on-one phone call with CTC staff was scheduled.

The table below shows that two years after the Working Connections event (the 2018 survey for 2016 attendees, the 2019 survey for the 2017 attendees), 29%-41% of respondents’ customized goals were completed (another 5%-15% were partially completed) and 35%-38% of the goals were ongoing.

	2016 Leadership Academy				2017 Leadership Academy			
	January 2018 survey (n=29 respondent goals)		January 2019 survey (n=21 respondent goals)		January 2018 survey (n=21 respondent goals)		January 2019 survey (n=20 respondent goals)	
Ongoing	11	38%	7	33%	6	29%	7	35%
Partially completed	5	17%	2	10%	4	19%	1	5%
Completed	12	41%	5	24%	6	29%	6	30%
No longer pursuing	1	3%	7	33%	2	10%	6	30%