Climate Science Proviso

2018-19 Final Survey Report

August 2019

Kauffman & Associates INCORPORATED

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Introduction and Executive Summary

ClimeTime is facilitated by the Office of Superintendent of Public Instruction (OSPI) through a Washington State budget proviso of $4 million in 2018-2019 originally requested by Governor Jay Inslee. OSPI manages the Washington State Fellows' Network,[1] and the grant funding flows through all nine Educational Service Districts (ESDs) in Washington and seven community-based organizations (CBOs). The ESDs and CBOs are launching programs for science teacher training, linking the Next Generation Science Standards (NGSS) and climate science. In addition to teacher professional development, the project supports the 16 grantees to develop instructional materials, design related assessment tasks and evaluation strategies, and facilitate student events.

This 2018-19 survey report discusses data from three surveys about ClimeTime professional development of science teachers across Washington between September 1, 2018 and June 15, 2019. The first survey, the Climate Science Survey, addressed trainings open to educators across the state related to the Washington State budget proviso. The second survey added a couple of questions to gather end of year findings about participation in trainings. The third survey, the Fellows' Survey, gathered feedback from educators participating in the Washington State Fellows' Network, which OSPI and the ESDs convened. The Network is a group of instructional leaders who support district and community implementation of state learning standards in mathematics, English Language Arts (ELA), science, and the Early Learning Guidelines. The report includes data collected from the final Science Fellows' convenings held in late spring, 2019. While Regional Science Coordinators focus on teacher leadership in the Fellows' Program, they provide support for climate science instruction through these convenings.

Climate Science Survey Findings

Overall, participants rated the trainings very highly with more than 86 percent stating that aspects of the sessions were good or very good. More than nine in ten participants reported that they were introduced to useful resources.

Over two-thirds of participants (67 percent) shared that they have broadened or deepened their knowledge of topics related to climate science. Practically every participant (97 percent) agreed or strongly agreed that participation prepared them with the necessary skills to try something new or different in their professional practice. Ninety-five percent agreed that they have broadened or deepened their understanding of research-based instructional practices, and 92 percent reported increased knowledge of the content standards and 82 percent reported agreement that the trainings informed them about how to share the information they

[1] Please visit http://k12.wa.us/CurriculumInstruct/Fellows.aspx to learn more about the Washington State Fellows Network.

learned with colleagues. More than two-thirds of respondents (between 67 and 82 percent) agreed or strongly agreed that the training increased their knowledge of practices to make learning experiences more inclusive for students of color, English language learners, and students with disabilities. Over half (58 percent) reported that they are confident or very confident about teaching the NGSS climate science-related topics at their current level.

Participants reported on the frequency of their instructional practices in science and STEM teaching. While 74 percent of respondents plan for multiple ways to access learning most or all of the time, a smaller proportion (42 percent) survey students about their interests or experiences relevant to science ideas. Sixty-three percent of the participants claimed that they prompted students to explain and revisit their understandings. Close to half reported employing other practices, including Engage in conversations around science findings or engineering solutions (48 percent) and asking students to explain their partial understandings and potentially incorrect ideas (50 percent).

The Climate Science Survey analysis also compared participants' responses for items related to their instructional practices and their confidence in teaching the Next Generation Science Standards. The pre assessment group included survey respondents with five or fewer hours of participation in Climate Science professional learning prior to November 1, 2019. The post assessment group included survey respondents with 30 or greater hours of participation following April 15, 2019. When running statistical tests to gauge the difference between the two groups, the post-assessment group had higher rates (74 percent) of confidence than the pre-assessment group (47 percent) for the item*, How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level.* Other comparisons of items were not statistically significant.

The Climate Science Surveys provided information about participants in professional development supported by the 2018-19 legislative proviso. Trainings drew primarily elementary teachers (58 percent) and middle school and high school teachers (both 19 percent) with remaining percentages and multi-grade teachers (4 percent). The Climate Science Report Appendix provides data broken out by instructional level.

Fellows' Survey Findings

Overall, participants in the Science Fellows' Trainings gave strong ratings to their professional development. More than nine out of ten (92 percent) stated that aspects of the sessions were good or very good. More than nine in ten participants reported that the sessions used engaging activities, introduced them to useful resources, and provided timely and relevant information.

The vast majority of the participants (98 percent) agreed or strongly agreed that participation prepared them with the necessary skills to try something new or different in their professional practice. Most respondents agreed that they have broadened or deepened their understanding of research-based instructional practices (96 percent) and leadership practices to provide

equitable access to high quality instruction (93 percent). A large proportion (between 72 and 83 percent) agreed or strongly agreed that the training increased their knowledge of practices to make learning experiences more inclusive for students of color, English language learners, and students with disabilities.

Survey Responses

The following sections list the number of responses and percent of responses for each question in the Climate Science Survey and the Fellows Survey. Summaries of the responses and verbatim responses are also provided for any open-ended questions.

Climate Science Survey Responses

Table 1 through **Error! Reference source not found.**7 provide the number and percentage of responses for each question in the Climate Science Survey. Tables 8-10 compare survey responses for three items, providing crosstabulations for participants with five or fewer hours of participation in Climate Science professional learning prior to November 1, 2019 (labeled Pre Assessment) and for participants with 30 or greater hours of participation following April 15, 2019 (labeled Post Assessment). Differences between the Pre and Post Assessment were statistically significant for the item, *How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?*

Table 1. Thinking about your professional learning session, how would you rate it for the following?[2]

		Very Good	Good	Fair	Poor	Does Not Apply
Meeting the stated learning objectives of the session.	%	66	28	5	1	0
	#	817	342	62	9	0
Use of engaging and useful activities to facilitate your learning.	%	65	26	7	2	0
	#	800	320	90	20	2
Introducing you to useful resources such as curriculum materials, research articles, and practice information?	%	65	27	7	1	0
	#	797	329	84	13	5

[2] For all tables, the percentages may not total 100 because of rounding.

		Very Good	Good	Fair	Poor	Does Not Apply
Providing timely, relevant information that you will be able to apply in your work setting.	%	63	29	7	1	0
	#	774	355	83	17	3
Engaging you in discussion with other participants in ways to facilitate your learning.	%	68	26	5	1	0
	#	842	319	60	9	1
Providing sufficient time for you to process the information collaboratively with colleagues.	%	59	31	9	1	0
	#	724	378	108	17	3
Motivating you to recommend these types of sessions to your work colleagues.	%	63	26	8	2	1
	#	774	322	92	21	13

Table 2. As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:

		Strongly Agree	Agree	Disagree	Strongly Disagree	Not Addressed
The content standards	%	46	46	5	0	3
	#	568	566	59	2	37
Research-based instructional practices	%	53	42	3	0	2
	#	658	514	37	0	23
Instructional practices to make learning experiences more inclusive for diverse student populations (e.g., special education, highly capable, migrant, students of color).	%	43	39	7	0	11
	#	527	479	85	2	139

		Strongly Agree	Agree	Disagree	Strongly Disagree	Not Addressed
Instructional practices to make learning experiences more inclusive for English language learners.	%	35	39	9	1	16
	#	429	484	114	10	195
Instructional practices to make learning experiences more inclusive for students with disabilities.	%	32	35	11	1	21
	#	388	433	141	10	260
A range of assessment and/or resources across the educational system such as state, local, and/or classroom assessments.	%	37	41	8	1	14
	#	452	509	94	7	170
How to share the sessions' information with others (teachers, administrators, parents).	%	38	48	5	1	9
	#	465	588	65	6	108

Table 3. How frequently do you implement the below instructional practices in your science or STEM teaching?

		All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable	Missing
Provide opportunities for students use data to inform their thinking	%	15	46	32	2	2	3.1
	#	188	563	390	28	25	38
Test the ability of students to apply key science ideas to new situations	%	12	43	34	5	3	3.5
	#	145	524	420	63	37	43
Engage in conversations around science findings or engineering solutions	%	20	40	31	4	2	3.9
	#	240	492	382	43	27	48

		All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable	Missing
Engage students in science-related computational thinking	%	10	35	41	6	2	4.8
	#	125	436	505	77	30	59
Ask students to explain their partial understandings and potentially incorrect ideas	%	26	45	22	2	1	4.1
	#	314	548	273	30	17	50
Have students make explanations and revise them in response to new evidence	%	20	42	29	4	2	4.2
	#	240	512	356	52	20	52

Table 4. How frequently do you engage in the instructional practices in science and STEM teaching below?

		All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable
I plan for multiple ways for my students to access learning	%	28	43	22	2	2
	#	341	525	265	23	20
I encourage students to consider possible barriers to implementing a solution	%	18	40	32	4	2
	#	219	490	392	48	21
I survey students about their interests and experiences relevant to science	%	13	30	37	12	2
	#	163	363	459	153	28

Table 5. Participating in this Professional Learning Experience prepared me with the necessary skills to try something new or different in my professional practice

		Strongly Agree	Agree	Disagree	Strongly Disagree	Not Addressed
Responses	%	58	40	2	0	0
	#	711	490	28	3	0

Table 6. How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?

		Very Confident	Confident	Somewhat Confident	Not Confident	Missing
Responses	%	14	43	35	6	3
	#	171	527	426	70	38

Table 7. Grade level(s) currently teaching/current role

Grade Level		Elementary (Grades P–5)	Middle (Grades 6–8)	High (Grades 9–12)	Other (Multiple grades)
Responses	%	710	236	229	57
	#	58	19	19	5

Table 8. How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level? (Pre and Post Assessment Comparison)

		Very Confident	Confident	Somewhat Confident	Not Confident
Pre assessment	%	15	32	41	13
	#	8	17	22	7
Post assessment	%	25	49	25	1
	#	19	38	19	1

Table 9. How frequently do you implement the below instructional practices in your science or STEM teaching? (Pre and Post Assessment Comparison)

			All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable
Provide opportunities for students use data to inform their thinking	Pre assessment	%	15	36	47	0	2
		#	8	25	19	0	1
	Post assessment	%	13	56	32	0	0
		#	10	44	25	0	0
Test the ability of students to apply key science ideas to new situations	Pre assessment	%	11	49	36	2	2
		#	6	26	19	1	1
	Post assessment	%	15	48	34	1	1
		#	12	38	27	1	1
Engage in conversations around science findings or engineering solutions	Pre assessment	%					
		#	11	23	15	2	0
	Post assessment	%	24	42	30	3	1
		#	19	33	24	2	1
Ask students to explain their partial understandings and potentially incorrect ideas	Pre assessment	%	29	56	15	0	0
		#	15	29	8	0	0
	Post assessment	%	30	44	24	1	0
		#	24	35	19	1	0

			All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable
Have students make explanations and revise them in response to new evidence	Pre assessment	%	24	51	24	0	2
		#	12	26	12	0	1
	Post assessment	%	15	50	30	5	0
		#	12	39	23	4	0

Table 10 How frequently do you engage in the instructional practices in science and STEM teaching below? (Pre and Post Assessment Comparison)

			All of the time	Most of the time	Sometimes	Never or hardly ever	Not applicable
I plan for multiple ways for my students to access learning	Pre assessment	%	26	52	22	0	0
		#	13	26	11	0	0
	Post assessment	%	35	44	22	0	0
		#	27	34	17	0	0
I encourage students to consider possible barriers to implementing a solution	Pre assessment	%	29	33	37	0	0
		#	15	17	19	0	0
	Post assessment	%	22	42	31	5	0
		#	17	33	24	4	0
I survey students about their interests and experiences relevant to science ideas	Pre assessment	%	16	36	46	2	0
		#	8	18	23	1	0
	Post assessment	%	24	27	35	14	0
		#	19	21	27	11	0

Responses to Open-Ended Survey Questions

The following summary focuses on three Climate Science Survey questions in which participants were asked to provide feedback.[3] This section provides the open-ended questions included in the survey, a summary of the responses, and a bulleted list of the verbatim responses. Respondents offered praise and suggestions about opportunities to improve the professional development.

Response to Survey Question: What aspect of your learning today are you most likely to use in your classroom in the near future?

Participants discussed resources, tools and specific methods or strategies that they would use in their classrooms and schools. Of those who answered the question, a good number appreciated various resources such as learning standards, lessons, kits, websites, videos, and field guidebooks. They also valued tips and feedback received from peers. Among methods or strategies, a number referenced Argument-Driven Inquiry (ADI)4, the use of models, and presentation of evidence.

- "I am most likely to begin implementing the steps necessary to construct a complete 'gapless explanation' for the sake of unit planning; the resources provided in the Professional Learning Experience give many helpful tips, checklists, and explanations for the process."
- "There was such a variety of tools and information to support diverse learning across the requirements for science. I will be relying on the Climate Literacy website created by Tom Hawthorn as a resource in the future."
- "I love the structure of ADI and the ability to put more ownership for learning, designing and thinking on students with appropriate scaffolds to help them succeed. I think it seems like a great strategy for meaningful, engaging science learning."
- "I will use ADI structures to help students better understand the purpose of labs and increase understanding gained from them."
- "Teaching students how to use evidence statements & encouraging them to do so. Teaching claim, evidence, reason statements, how to compose them from labs, investigations & other ways they have learned the standards."
- "Using different discussion protocols to structure student talk and student engagement/ participation. Also adapting the use of summary charts and tables to facilitate learning."

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[3] In the case of the first two survey questions, one-fourth or a total of 308 participant responses were randomly selected from a total of 1,232 completed surveys. The third survey question was added in April 2019 and feedback was gathered from 512 participants. From this total, 128 or one-fourth were randomly selected for analysis.

[4] ADI is a multi-step process used in STEM classrooms to move from identifying a question to data collection to reporting. Please visit https://argumentdriveninquiry.com/instructional-model for more information.

- "I will absolutely use the information given in the unit given. I also am motivated to find 'events' relevant to my students and create questions for them to dive deeper and create solutions."
- "I will use the active science teaching methods of inquiry-based learning. I will use models to show thinking and have the students revise them over time as they gain evidence."

Response to Survey Question: What suggestions do you have to make this professional learning experience better?

Participants suggested changes to the pace and logistics of the trainings they attended. There were suggestions for additional training, requests for more information or opportunities for sharing resources. Rather than offering feedback, close to one out of every ten participants who replied to this question expressed appreciation for the professional learning experience.

- "I would like to actually work through the lessons ourselves. Although it would take more time it would give us a better experience in understanding the material and see how our students would interact with the information."
- "More actual think time. We had a working lunch and I worked through my lunch and still did not have adequate time to finish."
- "Provide ALL the materials - slide show, presentation, handouts - for the presentation so they're more easily digested and understandable throughout the presentation. Otherwise, we're not really sure what's going on sometimes."
- "More time! And I would like to take a unit I have established already and find a specific ADI lab to implement in place of something else along with the lesson plan of how I am going to implement it."
- "Statement of the goal for the activity and objective prior to all activities would help my understanding of the purpose."
- "More specificity in HOW to make science inclusive for marginalized groups. HOW teachers can specifically facilitate equity in their classrooms. It's not good enough just saying that equity needs to happen--that STEM has undeserved non-male, non-white, and non-able-bodied people. We have to EXPLICITLY show how to dismantle those harmful practices that continue to marginalize."
- "One participant, the elementary science teacher provided some amazing, classroom tested, kindergarten science lessons. Her kindergarten lessons are what made this training useful. Including more grade-specific lessons and lists of related read-alouds and fewer generalized 'staff meeting' type hand-outs/activities will make this course better."

Response to Survey Question: How have you used a Climate Science-related strategy in your classroom in the 2018-19 school year?

Climate Science professional learning participants pointed to use of climate science-related strategies in instruction lesson planning, development, or implementation, as well as their use in classroom discussions and in student activities.

- "Tracking the weather is all we have done on climate this year, but I intend to expand on it next year with my new knowledge."
- "In kindergarten, weather is discussed throughout the year, but knowing more about the standards I have been trying to implement more strategies in speaking about new vocabulary about climate."
- "I implemented models we used at our last meeting to help my students demonstrate what they have learned."
- "I'm focusing on getting my students to ask more questions and use argumentation when analyzing and interpreting data."
- "I have developed a unit in which we analyze the consumption of water and where that water comes from. It's a short unit but we basically look into who are the living organism that consume that most water and what percentages are available from different sources."
- "We have done outdoor observations in our school garden. Students have also completed research projects on animals in different habitats and designed their own animal with special adaptations."

Fellows Survey Responses

Table 11 and

		Very Good	Good	Fair	Poor	Very Poor	Does Not Apply
Meeting the stated learning objectives of the session.	%	68	29	3	0	0	0
	#	90	38	4	0	0	0
Use of engaging and useful activities to facilitate your learning.	%	67	28	5	0	0	0
	#	89	37	6	0	0	0
Introducing you to useful resources such as curriculum materials, research articles, and practice information?	%	67	27	5	0	0	0
	#	89	36	7	0	0	0

		Very Good	Good	Fair	Poor	Very Poor	Does Not Apply
Providing timely, relevant information that you will be able to apply in your work setting.	%	65	30	5	0	0	0
	#	86	39	7	0	0	0
Engaging you in discussion with other participants in ways to facilitate your learning.	%	78	20	2	0	0	0
	#	103	26	3	0	0	0
Providing sufficient time for you to process the information collaboratively with colleagues.	%	64	27	8	0	0	0
	#	85	36	11	0	0	0

Table 2 provide the number and percentage of responses for each question in the Fellows Survey.

Table 11. Thinking about your professional learning session, how would you rate it for the following?

		Very Good	Good	Fair	Poor	Very Poor	Does Not Apply
Meeting the stated learning objectives of the session.	%	68	29	3	0	0	0
	#	90	38	4	0	0	0
Use of engaging and useful activities to facilitate your learning.	%	67	28	5	0	0	0
	#	89	37	6	0	0	0
Introducing you to useful resources such as curriculum materials, research articles, and practice information?	%	67	27	5	0	0	0
	#	89	36	7	0	0	0
Providing timely, relevant information that you will be able	%	65	30	5	0	0	0
	#	86	39	7	0	0	0

		Very Good	Good	Fair	Poor	Very Poor	Does Not Apply
to apply in your work setting.							
Engaging you in discussion with other participants in ways to facilitate your learning.	%	78	20	2	0	0	0
	#	103	26	3	0	0	0
Providing sufficient time for you to process the information collaboratively with colleagues.	%	64	27	8	0	0	0
	#	85	36	11	0	0	0

Table 12. As a result of participating in this Fellows Session, please rate your agreement with the statement, I have broadened/deepened my existing knowledge of…

		Strongly Agree	Agree	Disagree	Strongly Disagree	Not Addressed
The content standards	%	37	54	3	0	6
	#	49	71	4	0	8
Research-based instructional practices	%	62	34	2	0	2
	#	82	45	3	0	2
Instructional practices to make learning experiences more inclusive for students of color.	%	40	45	4	0	11
	#	53	59	5	0	15
Instructional practices to make learning experiences more inclusive for English language learners.	%	38	42	8	0	11
	#	50	56	11	0	15
Instructional practices to make	%	30	42	11	0	16

		Strongly Agree	Agree	Disagree	Strongly Disagree	Not Addressed
learning experiences more inclusive for students with disabilities.	#	40	56	15	0	21
How to use culturally competent teaching strategies to ensure racial equity for all students	%	36	47	6	0	11
	#	47	62	8	0	15
A range of assessment and/or resources across the educational system such as state, local, and/or classroom assessments.	%	30	51	6	1	12
	#	40	67	8	1	16
How to share the sessions' information with others (teachers, administrators, parents).	%	35	52	8	2	4
	#	46	69	10	2	5
Leadership practices to provide equitable access to high quality instruction.	%	44	49	4	1	3
	#	58	64	5	1	4
How to look at data to identify ways to adjust instruction.	%	34	49	5	1	11
	#	45	65	7	1	14
How to try something new or different in my professional practice.	%	65	33	2	0	1
	#	86	43	2	0	1

Responses to Open-Ended Survey Questions

The Fellows surveys gathered feedback about steps that science educators would take after the fourth of the four Fellows convenings. This survey included different open-ended questions

than the exit ticket that followed the first three Fellows sessions as it sought to capture end-of year feedback about the Fellows Program.5

What new or different thing(s) have you tried in your professional practice because of your participation in the Fellows Program?

Science Fellows named several instructional and leadership approaches that they implemented through their participation in the Fellows Program. Survey responses indicated that Science Fellows focused on the quality of student discourse in the classrooms. They named techniques, including the Open Science Education Anchoring Phenomena, Argument-Driven Inquiry and modeling. Fellows shared that they led book studies and other professional development. They also broadened their networks, identifying key individuals whom they could influence through their work:

- "I've re-designed all of my classroom assessments and activities. I've become more intentional with students' discourse, such as using big poster paper and sticky note discussions to capture student thinking and conversations. I've also helped to develop and lead district science teacher trainings, using some of the hands-on activities learned on our meeting days."
- "I have reached out to other teachers in the district that I probably never would have spoken to otherwise."
- "Surveying staff needs, having science discussions with administrators, having productive discussions with science colleagues and staff."
- "The biggest change to my teaching has been using the Ambitious Science Teaching framework. I've really enjoyed exploring how to use initial models, revision models, and final models to show student growth and to accurately assess my students based on the NGSS standards."

Reflecting on the past year, what worked well for you in the Fellows program?

Science Fellows praised both the adult learning strategies and the resources shared by the Regional Science Coordinators during the Network convenings. These include engaging facilitation techniques, the Fellows Action Plan and the book study of *Ambitious Science Teaching.* They expressed gratitude for opportunities to network and collaborate.

- "Actual lessons were utilized to discuss aspects of science teaching and integrating [the] NGSS. Working in small teams on these activities enabled us to share practices and think of how we approach science teaching and lessons with students. It worked well to read research on best practices in science teaching and learning and reflect on how to apply this to our own situation."

[5] All the 132 survey responses following the fourth Science Fellows sessions were analyzed for this report.

- "Believe it or not, the Science Fellows program has helped me to become braver about speaking up to my administrator in regard to what I think would be best for the students, specifically, the freshmen. I have definitely become a bit more outspoken."
- "I thoroughly loved learning with and connecting to teachers to focus on the NGSS. This opportunity has enabled me to grow in my profession and provide assistance to my colleagues. I am so excited for the challenges to come in the next two years."
- "Just recently my Fellows work and the district came to an a-ha moment. It finally feels like we are moving on the change process. Having resources and information from the Fellows Program about how the NGSS guidelines has shifted teaching and ways to approach that shift and be effective."
- "I enjoyed the Ambitious Science Teaching book and how it is challenging me to think how my role as a kindergarten teacher can help set students and their future teachers up for success. Specifically, how can I be teaching students to disagree respectfully and have a growth mindset?"

What, if anything, would you change, edit, or add for the 2019-20 school year Fellows program?

Fellows provided helpful suggestions for improving the professional learning experiences. A common request was differentiating some of the activities so that they could be better aligned with the grade levels of students. Fellows were also eager to enhance Action Planning and suggested that the Emeritus Fellows who completed the three-year program cycle could be helpful partners. Fellows also noted a range of logistical details, including the location, frequency and timing of sessions.

- "More time spent in grade appropriate material. For example, elementary does not need to work with high school examples, they should be working with elementary examples. This applies to all tasks."
- "I would love to have a way of knowing who the other Fellows are in other disciplines with contact information. It would be nice to be able to reach out to the other Fellows between sessions to collaborate and brainstorm together."
- "I'd like to learn from Fellows emeritus early in the year. It would be great to hear from them about what they got from the three-year experience. That would give me an idea of what the scope of my own Action Plan could be."
- "A little more on the leadership curriculum -- time to workshop plans for enacting our Action Plans and influencing science instruction in our schools/districts. More structured feedback and checking in with other Fellows about our completed actions and next steps."
- "At our first meeting (this is my first year), there was a big emphasis on what a good Action Plan goods like. When viewing my team's Action Plan at our first convening, I remember thinking that our Action Plan wasn't that great based on what I had learned at the first meeting. I didn't feel comfortable speaking up about it, so I've just kind of gone 'with the flow' this year. Maybe all Fellows could benefit from this type of Action Plan quality calibration every year. I see that some good work has been done,

nonetheless. I would also like to learn how to be an agent of change in my district in ways that move beyond me just providing professional development to my peers."

How has Action Planning supported your work as a Fellow in 2018-19?

The Science Fellows Action Plan and Reflection Tool is designed to communicate and track how the Fellow's leadership will support implementation of the Next Generation Science Standards. Fellows' responses to this question shared the ways in which Action Planning impacted their leadership and instruction. Survey answers indicated that many Fellows valued the Action Plan as a reflection and accountability tool. Fellows also shared a few of the barriers to fully benefitting from the Action Planning Process.

- "I knew what my goal was and what I needed to do to reach my goal. I knew what steps I needed to take and who I needed to work with. It focused my efforts."
- "Action planning has helped me stay focused on how to provide rigorous and equitable instruction for my students."
- "[It] has increased my thinking about discourse and how to ask probing questions of students. We are using discourse for our Action Plan so that we can encourage our building to increase science instruction."
- "It's supported me in communicating with my district leaders to develop a vision for science education and identifying gaps in our staff's learning."
- "It's been more challenging this year as it gains depth, but it has provided community and solidarity with district Fellows in our planning and presentation to the district office as well as communicating with my principal."
- "My Action Plan was stalled this year for a variety of reasons. Decisions were made that were above my position/authority for the 2019-2020 school year, but I am not abandoning my goal of seeing my Action Plan through to implementation for the 2020-2021 school year."