208 EEs. Additionally, he reported that the design and implementation of the writing and revision processes will likely lead to the development of a set of robust and high-quality EEs. Overall, Dr. Roeber believes the panelists' work will greatly improve science instruction and science assessment for students participating in DLM science assessments. The text of the TAC member observation report can be found in Appendix A: DLM .

II.g.2. Evaluation of the Event Processes by Panelists

Of the 52 participating panelists, all but one responded to an evaluation questionnaire assessing the effectiveness of the training they completed, the effectiveness of the writing and revision processes they employed, and the quality of the event itself.

Table *10*. Panelists' Responses About Effectiveness of Training, , and Table 12 provide summaries of panelists' responses to the questionnaire. As part of responses to short answer questions, panelists described the event as content-focused, collaborative, active, supportive, and introspective and reflective. One panelist noted, "I mentioned to others that I feel that this process was very productive and would work (in miniature) as a solid professional development model for teachers who are learning about EEs and the standards in general. This productive struggle provides an opportunity for understanding that just doesn't come from being "given" a final product."

Table 10. *Panelists' Responses About Effectiveness* of *Training*

	Very effective	Somewhat effective	Not effective
Online advance training	34	17	Ns
Onsite training	44	7	Ns
Onsite practice round	35	16	Ns

Note. Ns = Not selected

Table 11. *Panelists' Responses About Effectiveness of Event Processes*

	Very effective	Somewhat effective	Not effective
Facilitator feedback	48	3	Ns
Discussions within panel group	50	1	Ns
Discussion across panel groups	50	1	Ns
Onsite resources	47	4	Ns

Note. Ns = Not selected

Table 12. *Panelists' Event Feedback Survey Results*

	Strongly agree	Agree	Disagree	Strongly disagree	Not applicable
The overall objectives and goals were met.	43	3	4	0	1
I am confident that I applied the criteria for my review type.	37	8	0	4	2
My panel drafted Essential Elements aligned to the standards and meeting criteria.	44	1	0	4	2
My table facilitator was effective at guiding panelists through the process.	42	3	0	4	2
Overall, I valued the DLM Science Essential Element Expansion and Revision process as a professional development experience.	45	0	0	4	2

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Appendix A: DLM TAC Member Observation Report

Edward Roeber

Chair, DLM Technical Advisory Committee

November 2019

As chair of the DLM Technical Advisory Committee, I was invited to attend as an observer at the meeting to create or edit Target Essential Elements (EEs) for use in the revised DLM science assessment to be based on the Next Generation Science Standards (NGSS). I was asked to observe group and individual attendee engagement with the process, and use the following questions as a guide for providing feedback about the meeting and the work accomplished during it.

1. To what extent did the *intended* EE writing/editing process foster DLM Consortium members' sharing of expertise?
2. To what extent did you observe that the *actual* EE writing/editing process will lead to a robust set of new DLM science EEs?
3. To what extent were the table panelists engaged with the process? As individuals? Within small groups? During large group activities?
4. To what extent did you observe that table facilitators were leading the process in a professional and informed manner? In a manner that established trust and encouraged table panelists to share expertise equally?
5. To what extent did you observe that DLM staff were supporting the effort to produce a robust set of new DLM science EEs (i.e., the Lead Facilitator, Science and Accessibility SMEs, Implementation Team members, other DLM staff and leadership supporting the event)?
6. Add any general observations or comments about the DLM science EE writing/editing event that you feel will be helpful or informative to the process or to future conversations.

I was asked to observe the meeting in its entirety, which I did, and to prepare a report of my observations. It is intended that these observations assist DLM staff and member states in future governance, conformance checks, or research activity. It was anticipated that this report might also be included in a future technical or other report on the development of the revised DLM science assessment.

<u>Introduction</u>

This activity consisted of 52 panelists, who worked in 14 tables of 3–5 individuals per table, plus 30 staff, who served as room lead, 14 table facilitators, one content specialist, one accessibility specialist, two science subject-matter specialists, several others who floated around the room, two data entry specialists, and two meeting support staff.

Participating content specialists and accessibility were selected from a database maintained by the ATLAS implementation team of past and potential attendees for various DLM functions. This includes state and local educators drawn from all 20 DLM states. The database contains a variety of demographic and other information, such as place and nature of employment, about potential attendees. This permitted DLM to select a representative group of experts to serve as