A single trip to the NASA Space Exploration Educators Conference (SEEC) gave two UNI students an entirely new perspective on space education. This experience inspired them and a UNI professor to share the ideas and methods they learned with other pre-service teachers in the form of a workshop, which was covered in last week’s story and will be free to students. Dr. Rinehart, Tyler Brown, and Tori Wells would recommend the experience they had at SEEC to future educators in every discipline.

On top of presentations by the well-known NASA personalities, the group attended sessions hosted by in-service teachers and NASA affiliated scientists about how to integrate space exploration education into classrooms. Before the conference, neither Tori nor Tyler had heard much about space exploration education, but they came away with a great deal of interest.

“I think what we have now is space education, small elements of it built in,” Dr. Rinehart elaborated. “That exploration word is missing, so you learned that there are planets or you learned that there’s this or that or this other thing, but there’s no description of how we got there. How did we figure this stuff out? And I think that that process piece was pretty essential if you want to come to appreciate the core of the discipline.”

One session that Rinehart and Tori went to focused on the subject of supply chain and logistics management for space flight, or, in other words, how you might pack for astronauts headed to the International Space Station. “That was interesting insofar as it applies to education that it gets students thinking very operationally about how to carry out a mission and what’s involved in that,” Rinehart explained. This session inspired the first activity of their upcoming workshop, where students will plan and carry out their own mission to Mars.

Tori’s biggest takeaway from the conference was how every lesson plan given by the workshop leaders could be changed and adapted for different grade levels. This was beneficial to her as an Elementary Education major, because her students would require a different level of difficulty than older students, but also because many of the lessons were written through a cross-curricular lens.

“I learned a lot on how you can adapt each lesson for pretty much any grade and make it to how you would want it to best fit your classroom.”

-Tori Wells

“I learned a lot on how you can adapt each lesson for pretty much any grade and make it to how you would want it to best fit your classroom. I learned a lot about how you combine different subjects and make the activities cross-curricular,” Tori said.

Tyler, a Physics Education major, had a similar takeaway. “We’re teaching more cross-curricular things in high school too, and that might not seem super useful at first, but I can compare with other teachers. I can differentiate my projects for different students depending on what they like. Not all of them are going to be purely math-driven students, and we need to be ready for that.”
A big focus of the conference was how scientific space exploration education could incorporate aspects from across the curriculum. This was also reflected in the attendees. Because the trip was funded by the Iowa Space Grant Consortium, Tyler and Tori met up with in-service teachers from elsewhere in Iowa. Each teacher had a different specialty—from Math to English.

SEEC is held annually at the Johnson Space Center in Houston, Texas. This was 25th year of the conference, so they invited quite a few big names. One of them was Alan Stern, the principal investigator of the New Horizons mission to Pluto. During his session, attendees were able to see new images from the mission and learn about how it was carried out. UNI’s group collectively agreed that “it was awesome.”

Gene Krantz, flight director for Apollo 13 and several other NASA missions, was another speaker at the conference. Astronaut Clay Anderson also had a session that the whole group attended. Later this month, he will meet with those who went to conference thanks to funding from the Iowa Space Grant Consortium.

“I think we hit the jackpot this year because they had this anniversary and were inviting all of these big name people,” Dr. Rinehart said.

This was not Dr. Rinehart’s first conference, but it was the first time he brought along students. Both students expressed interest in attending again, with Tyler saying how he was so excited to attend as many sessions as possible that he ended up skipping lunch. Dr. Rinehart says he definitely brings students again in the future.

“I can say that without hesitation or reservation,” he said of the experience. “I think one of the best parts of the conference was when we were all tired. The conference was over. We went back to the hotel. We sat in the lobby and got dinner and we shared. We realized how many things we came away from this conference with and how many things we were ready to share when we got back here.”

Image of Pluto’s craters from NASA’s New Horizons spacecraft

Story by
Brooke Wiese
Graduate Assistant
Communicating STEM
wieseab@uni.edu

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Contact Us
UNI STEM
229 East Bartlett
319.273.7399
stem.ed.unl.edu

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