"Man with messy hair"

By Nancy Tarnai

If you can imagine something as slight as a niche hidden in the enormous expanse of Alaska, then watch Jerry Lipka at work, and it's clear he's found his.

"The best part of my job is I'm still learning," he beams. "It's an extraordinary position to be in, to try to create a new math curriculum and work with school districts for the betterment of kids. This is a fantastic opportunity."

For 30 years, Lipka has collaborated with Yup'ik teachers and elders to transform traditional knowledge into math skills in the classroom. Lipka, principal investigator for UAF's Math in a Cultural Context and professor of education, is painstakingly careful about his research and publications, which incorporate Yup'ik knowledge into math curricula.

Born and raised in New York City, Lipka grew up ingrained with a sense of fairness and equity from an early age.

"My whole career is wrapped around that very core element," he says. "I remember always feeling like that."

As a youth he worked as a busboy in the Catskills, sold hats at the World's Fair and hawked balloons on the boardwalk at the Democratic Convention in Atlantic City.

Lipka earned a master's degree in business at City College of New York, but the world of business was a bad match, and he switched to education. It was 1967, a time of conflict and change, when communities started to seek more control of their schools.

"The intrigue of politics, schooling and power came to me at the very start of my teaching career," Lipka says. Yet it was the human dimensions of teaching that interested him the most.

He taught third grade in an experimental, locally controlled district in Harlem; he was the students' third teacher that year. He made a point of visiting parents in their homes, giving them encouraging messages about what their children were doing in school. Meeting the families, he says, was one of his best teaching experiences.

At the time, he attended a workshop led by Caleb Gattegno, who popularized the use of Cuisenaire rods to teach math concepts. (Cuisenaire rods are colored rods of varying lengths from 1 – 10 cm.) Lipka found them an excellent way to teach multiplicative structures, introduce the concept of variables and encourage flexible thinking. Later, he applied the Cuisenaire approach in his work blending Yup'ik math concepts with Western methods.

"The very foundation of our mathematical approach is built on spatial relationships, using body proportions to measure," Lipka says. "I used the rods yesterday in my office. They definitely influenced my thinking as I develop materials today."

After earning a doctorate at the University of Massachusetts Amherst, Lipka joined UAF's Cross-Cultural Education Development Project in 1981. The program's purpose was to increase the number of teachers in Alaska, particularly indigenous teachers. High turnover rates then, like now, can hurt the education process in the long run.

Lipka worked in Southwest Alaska, in the villages surrounding Dillingham, where he and his wife and children lived for 11 years.

"I was met with openness," Lipka says. "The people adopted me and my family and always had a place for us. It was a very hospitable place."

His focus was changing the schools to reflect the knowledge of local communities. In the process he met with elders who spoke only their native language and who communicated with Lipka through bilingual aides. "I learned a tremendous amount from those meetings," Lipka says. "Inviting the elders was the best thing we've ever done."

UAF alumni in this story: Dora Andrew-Ihrke, '83; Annie Blue, '09, honorary degree; Evelyn Yanez, '84

He recognized immediately the wealth of knowledge the elders held. Moreover, they were willing to share. Their rich stories, though entertaining, subtly instilled mathematical concepts in everyday practices: how to read the life of a tree, how to identify one's location and how to navigate through the wilderness.

Another lesson the elders passed on was the role of social relationships and the critical importance of being of one mind. Elder Henry Alakayak didn't speak much English, and Lipka spoke even less Yup'ik, but they became very close. "From Henry I learned about relationships and harmony," Lipka says. "I got the importance of a group moving in the same direction if you want to accomplish something."

He says the elders told him they wanted to reveal what was once hidden. He credits Yup'ik elders and teachers with giving him invaluable insights as they developed the math curricula and professional development workshops. Foremost among his teachers is renowned storyteller Annie Blue, now well into her 90s and still sharing stories of her people's traditions whenever Lipka asks.

"That the elders trusted us with their knowledge is what made this work," he says.

Two of the teachers, consultant Evelyn Yanez and adjunct faculty member Dora Andrew-Ihrke, have worked with Lipka from the beginning of the project. "If we hadn't gotten the knowledge from the elders we would have lost so much," Yanez says. "It was the right time with the right people."

Lipka doesn't present himself as the big man or the boss, Yanez says. "He acts like us. He's so much a part of us that some of our kids call him Uncle Jerry."

In fact, Lipka received a new name, "Angutekegetaar" (the very good man), in a Yup'ik naming ceremony. They gave him a second name, too, a lighthearted one that translates to "man with messy hair."

"If it weren't for Jerry I don't think I would call myself Yup'ik, a real person," Yanez says. "Because of Jerry I became proud of who I am. I learned more about who I was."

Andrew-Ihrke says Lipka made it possible to focus on things some Yup'ik had taken for granted. Through working with him she gained pride in her culture, something she did not have growing up.

Lipka's meetings and workshops have a pattern, she says. "We observe, learn, try, and we go on from there in the traditional manner. I really like that. Thank you, Jerry."

Nancy Tarnai is a 1980 Auburn University journalism graduate who has vacillated between newspaper reporting and public relations around the U.S. for the past 30 years. Currently the public information officer for the School of Natural Resources and Agricultural Sciences, she has found the perfect job because there is something new to learn every day.

Listen to Lipka speak with Native elders at fish camp at **www.uaf.edu/aurora/**.

Dora Andrew-Ihrke, Evelyn Yanez and Jerry Lipka build community and collaboration into the Math in a Cultural Context program. Yanez (center), tells a story about an elder who was dying and asked to speak to Yanez on one of her last days. "She told me to tell Jerry hello and to tell him she enjoyed working with him and us," Yanez says. "She was always so thankful for what we were doing."