

Prestigious Fulbright Award sends USU Math Education Professor to Brazil

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Jessica Shumway, assistant professor in the School of Teacher Education and Leadership

Jessica Shumway, associate professor of mathematics education in the School of Teacher Education and Leadership at Utah State University, has received the prestigious Fulbright Award to travel to Brazil in April 2023 and broaden her research on mathematics education.

As the world's largest and most diverse international educational exchange program, the Fulbright Program is devoted to increasing mutual understanding between scholars in the United States and other countries. Shumway, who researches early childhood mathematics education and teaches courses on mathematics for future elementary school teachers, will use this award to develop a long-term research collaboration with Dr. Marcelo Borba at the University of São Paulo.

Shumway is ecstatic to have the opportunity to further her research in an international context. "I actually closed my computer for a minute and took a deep breath before opening it again to read the letter," said Shumway. "I am so excited that I will get to immerse myself in the schools in Brazil and interact with teachers there. I'm beyond grateful that this opportunity has come; I've been wanting to do this for a long time."

The state of Utah and the state of São Paulo are both home to populations that are spread out across a large area, creating the common problem of educating teachers in regions outside major urban centers. "Their system

is much like ours with statewide campuses—reaching pre-service teachers is a challenge that we share," said Shumway. "Living and working in São Paulo will help me understand how they make technology more accessible to people who can't leave their community."

Additionally, Shumway explained that mathematics education research in Brazil has an incredibly rich and interesting history. "They consider mathematics not as something singular, but as something to be integrated and transformed," she said. "I wanted an opportunity to explore this, not just through reading books, but by engaging in research and teaching with Brazilian scholars. There's something very different about being immersed in their context that you can't replicate without the time and funding to go there in person."



Dr. Marcelo Borba, University of São Paulo

Establishing open communication and long-term international relationships is a key purpose of the Fulbright Program. Together, Shumway and Borba will foster partnerships and a cross-cultural exchange between primary schools in Rio Claro, Brazil and elementary schools in Logan, Utah.

A significant portion of Shumway and Borba's research will focus on students' experiences learning mathematics using student-created videos and how this novel approach to education can enhance student learning. "I'm passionate about the link between research and practice," said Shumway. "Questioning and transforming math and technology can transform the way we think about it."

Students in Brazil have been creating math videos on YouTube with endless opportunities to be creative in their production: one student writes and performs an intricate, creative rap song about mathematics, while another explains parabolas using video and graphics to illustrate the arc of a tossed basketball.

Expressing mathematical ideas through songs, gestures, movement, and images helps students take ownership of their own mathematics education. "This makes it more accessible and helps kids have more agency over their learning," said Shumway.

To help prepare both materials and translations prior to her departure for Brazil, Shumway will be working with a third-grade class at Hillcrest Elementary in Logan in the Portuguese dual-language immersion program. These students will eventually be communicating through video with peers in Brazil, which will further enrich their dual-immersion experience. "The Brazilian students will serve as language role models to students in Utah, which will benefit both groups tremendously," said Shumway. "There is a great cultural component to bilingualism as well."

Fulbright alumni include 61 Nobel Prize laureates, 89 Pulitzer Prize recipients, and 40 who have served as a head of state or government. The careers of Fulbright recipients are greatly enriched by a network of thousands of esteemed alumni, many of whom are leaders in their fields. Recipients of Fulbright awards are selected in an open, merit-based competition that considers leadership potential, academic and/or professional achievement, and record of service.