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A Calculable Success

Shin Sawada brings the power of an ancient tool to children in the surrounding community.

Story by **MATT BORSE '16**

Shinnosuke (Shin) Sawada gingerly flips the clasps of a thin wooden box and unfolds a floral-print cloth, uncovering a rectangular object that he places on the table in front of him. Possessing a delicate beauty that belies its usefulness, the abacus has been used for thousands of years in his native Japan and elsewhere throughout the world to perform quick mental calculations — helping people from merchants to students in their daily lives.

Counting and moving the beads on the abacus' wooden frame helps children develop a visual and tactile relationship with numbers and early math concepts — and is also simply fun to use. Yet the tool has never caught on in the United States. Sawada is aiming to change that practice.

An exchange student from Toyko's Keio University, Sawada was perplexed by Americans' lack of interest in the abacus. The Japanese version, called a soroban, has been used since the 14th century and is still taught in primary schools as an aid to faster mental calculation. Japanese students who have mastered the soroban can solve problems faster than by using a calculator.

Sawada demonstrates the abacus' power when posed a series of math problems, such as 7,263 divided by 415. Three seconds later, he declares "17.501," with an air of such certainty that a fact check via a calculator hardly seems necessary. His fingers move over the abacus so quickly it's difficult to imagine that a calculation is taking place in his mind.

When questioned if his prodigious math ability is a natural or learned trait, Sawada hesitates. "A little bit between the both," he answers with humility, although he demurely adds that he was the National Abacus Champion in Japan at age 12.

Sawada was first attracted to Illinois Wesleyan because of its many opportunities to forge community projects. In his first semester, he enrolled in IWU's Action Research Center's fall seminar, which focuses on bettering the Bloomington–Normal community through innovative, student-led projects.

With the idea of using the abacus for his own project, Sawada began by teaching fellow IWU students how to use the tool. Tia Patsavas '16, one of his seminar classmates, points out that even though she had never used an abacus, Sawada made it easy for her to grasp. The experience encouraged Sawada to take the leap to teaching children in the community.



Shinnosuke (Shin) Sawada



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Shin Sawada teaches children how to construct simple wooden abacuses.

With help from IWU students, Boys and Girls Club members and volunteers from the local Tool Library (an organization for which Sawada has also volunteered), he constructed some 30 simple wooden abacuses at the Children's Discovery Museum in Normal and taught children how to use their new tools. "I'm glad that they can calculate on their own by using them. They were also excited to make an abacus and to use it on their own."

With a smile that rarely leaves his face, Sawada has the ability to patiently explain the ins and outs of the abacus in a manner that even a novice would understand as he slowly moves the abacus beads up and down, occasionally referring to his self-created diagrams to clear up any confusion.

His teaching experiences began after high school, when he volunteered this past summer with Teach for Japan. Mentoring and tutoring students from low-income areas of Tokyo, Sawada's interest was piqued by the disparities in education levels between Japan's affluent students and their less wealthy counterparts. Economists have dubbed this problem in Japan the "education gap."

The experience also sparked an interest in education issues related to labor and community development. He hopes one day to combine his interests in economics and sociology to conduct in-depth investigations comparing community development in the U.S. with that in Japan.

In ways that surprise even him, the abacus has connected him deeply to the Bloomington-Normal community. Though his Action Research Center coursework is complete, Sawada will continue to teach children the power of the ancient tool through the Boys and Girls Club. "I'm excited when the children are excited to use the abacus on their own," he said. "It makes me feel good when they can begin to calculate on their own using it."

Long term, Sawada wants to bring the abacus to an even broader audience. "My dream is that the abacus will be adapted in U.S. elementary education just as it is in the Japanese system."

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