LIFE & CULTURE

Mathematical Olympiad—and a jazz pianist to boot—guides us through the essence of STEAM education. STEAM is an approach to teaching and learning that utilizes knowledge from the five disciplines of science, technology, engineering, arts, and mathematics (STEAM). A gold medalist at the International Mathematical Olympiad as a high school student, where she became the first female Japanese competitor to win a gold medal. She also harbored a fascination for jazz while studying mathematics at the University of Tokyo, and became a professional pianist after graduating. Nakajima uses the commonalities between mathematics and music that she found through her own background to explain the pleasure she derives from interdisciplinary studies and the multifaceted connections overlap with the world of STEAM education. In this era of relentless change, there is a global demand to nurture such abilities, and the Kishida administration has put a concerted focus on creating a way to revolutionize how we learn and play to create better global connections overlap with the world of STEAM education. Nakajima also works as a thematic project producer for Expo 2025 Osaka, Kansai, Japan, whose theme is “Designing Future Society for Our Lives.” Efforts to revolutionize how we learn and play to create better global connections overlap with the world of STEAM education. "Think like a scientist, create like an artist. That’s STEAM. Persistent inquisitiveness becomes a way of living rather than simply a way of learning. I hope to see a future in which everyone, including myself, enjoys an even happier life.”

Given the high degree of change in society through developments in areas such as AI and IoT, there is an increasing need for interdisciplinary education to resolve social issues via the comprehensive application of knowledge across the wide-ranging fields of science, technology, engineering, arts, and mathematics (STEAM). A gold medalist at the International Mathematical Olympiad—and a jazz pianist to boot—guides us through the essence of STEAM education.

EXPLORATION

PLAYFUL

COMBINING STEAM EDUCATION WITH PLAYFUL EXPLORATION

How can we experience the beautiful tones of handbells without relying on sound? In order to share their performance with hard-of-hearing children, students in a certain school’s handbell club passionately started learning about programming to translate their handbell music into visual animation. Children at a school for the deaf and hard of hearing also tried programming lights to express the high and low tones of the music with the help of a hearing-support device. Aided by Nakajima’s fascination with jazz piano while studying mathematics at the University of Tokyo, and became a professional pianist after graduating.

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Currently, the Ministry of Education, Culture, Sports, Science, and Technology is conducting an Earth School project led by the Ministry of Economy, Trade and Industry to demonstrate how students can learn to innovate. "To me, STEAM represents diversity. I find it interesting that there is never just one answer. It is important to remain inquisitive. Constantly questioning what one wants to do inspires creativity," Nakajima explains. "The Japanese people have proved adept at devotedly pursuing individual topics in depth. While cultivating expertise in each field is import—}