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TECH AND TOTS

Early-age teachers differ on digital

By Helen Langford-Matsui

Kindergarten students at ASIJ's Early Learning Center learn how a robotic arm works.

Does technology have a place in preschools and kindergartens or should it be introduced later? And how does it mesh with long-established approaches such as the Montessori Method?
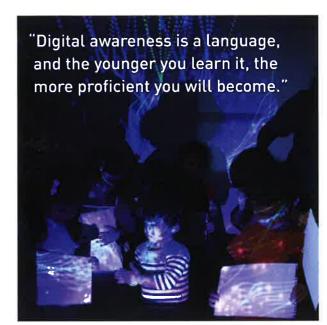
When we think of tech in the classroom, an image of kids staring at tablets and laptops may come to mind. But these are just some of the tools at the disposal of today's teachers. Tech comprises a wide range of devices, and *The ACCJ Journal* spoke to Tokyo-area educators to learn how their views of tech differ and how they incorporate today's gadgets into their programs.

WHAT IS TECH?

According to Marc L'Heureux, elementary school principal at the American School in Japan (ASIJ), tech can be defined in many different ways. "It can be an old cassette player, an iPad, a robot, laser printer, or laser cutters."

For Aoba-Japan International School (A-JIS) Secondary Principal Paul Fradale and Primary Principal Sachiko Otsuka, tech means "tools that the learning community—students, teachers, and parents—can use to enhance learning. It goes beyond using a whole bunch of technology in the classroom to the deliberate selection of tools that will support the learning intentions."

At Nishimachi International School, it means "connected learning." This takes a variety of forms, from addressing digital

"Digital awareness is a language, and the younger you learn it, the more proficient you will become."

MEES students explore colors through projection and music.

citizenship and literacy to connecting parents with children and teachers through the Seesaw app, a learning tool for iOS, Android, Chromebooks, and Amazon's Kindle reader that is used in one of every two schools in the United States—more than 200,000 classrooms—and in 150 countries.

For Euft van den Berg, principal and founder of MEES International School in Tokyo's Bunkyo Ward, "technology is digital awareness. This goes as wide as using computers, tablets, projectors, digital boards, the internet, cameras, Google Home devices, and digital assistants such as Apple's Siri and Google's Alexa."

When broadly defined, most schools can be said to use a variety of technology in the preschool and kindergarten classrooms. This includes teacher-controlled video monitors and projectors as well as child-controlled equipment such as interactive wooden blocks that teach coding and Bee-Bot programmable robots. But, as L'Heureux acknowledged, ASIJ's 1:1 iPad program, in which each student is assigned their own tablet, is what most people think of when they imagine the use of technology in the classroom.

And it is this kind of tech—its benefits and hazards—that Annette Levy, deputy head of school at Yokohama's Saint Maur International School says is subject to the most passionate debate.

PROPER PACE

Several themes emerged as we talked with teachers. Almost without exception, the question of whether tech is good for a child's development was the first consideration. And asking about screen time revealed a spectrum of opinions.

"As with all tools used in the classroom, we make decisions based on developmental levels and apply them in moderation," said Mihoko Chida, elementary school principal at Nishimachi.

The school's kindergarten team elaborated, explaining that "technology has a wider range of uses in the older grades. At the kindergarten level, we are teaching kids the skills they will

Nishimachi sees technology, including tablets, as part of connected learning.

need as they move through school." This includes learning to use and care for iPads.

For Christy Carrillo, director of the Early Learning Center at ASIJ, tablets and educational apps should be used only sparingly with young children. "As children mature, tablets and educational apps offer more opportunity and potential," she said. "In the early years, social and active learning is best."

That doesn't mean there is no place for tablets. Kindergarten students at ASIJ use them for taking photographs, to collaborate with peers, and to share their accomplishments with parents via Seesaw.

In Saint Maur's Montessori Preschool, digital technology use is limited to older students. "It is confined to 20–25 minutes a week, when the students work on an iPad for their Readers' and Writers' Workshop," explained Levy.

At GG Kids International School, tablets aren't used with students between ages two and four. GG Kids teacher and curriculum administrator Evan Hurlocker said: "In my experience, whenever the tablet comes out and the screen turns on, kids tune out from any type of instruction the teacher is trying to provide. If they can't focus on both, it doesn't suit our needs in the classroom."

On the other side of the spectrum is MEES, a school whose foundation rests on incorporating digital technology and where students aged two and over have access to a personal iPad. "With a few simple rules and guidelines, it is perfectly safe to allow young children to use technology," said van den Berg.

Such is the case at Coding Lab Japan, which teaches children aged 4–17 to program at campuses in Yoyogi and Shirokanedai. The slogan of the school, founded by former Microsoft program manager and software test engineer Nobuko Miwa, is "Tiny hands, mega minds." She believes that fear of programming can be dispelled if kids have the chance to work with computers and other technology, such as robots, at a young age. Apart from programming ability, Miwa says the experience develops self-confidence, the ability to work in teams, and creativity—all critical skills for success in the future workplace.

Despite the different views, the motivation is the same. "If our goal is to develop self-managed learners who are able to critically analyze the use of technology to support a particular purpose, then teachers need to plan a process where we gradually release and transfer control over to the students," explained Fradale and Otsuka.

ENHANCE, NOT REPLACE

Though teachers are becoming more proficient at applying technology—thanks to educational conferences, special training, and knowledge-sharing among peers, "parents remain skeptical as to how tech can help their child learn," said L'Heureux.

This leads to resistance from some corners to having tech in classrooms. Too often, the issue is oversimplified to yes, it belongs or no, it does not.

"Part of the problem is miscommunication," explained van den Berg. "It is not about whether you should use technology, but how to use technology."

That "how" was another theme we uncovered.

Matt Brady, director of digital learning at Nishimachi, said, "Technology should be integrated only when it engages, enhances or extends learning."

For example, having an internet connection can bring an extensive library of music and video into the classroom. This is the case at GG Kids, where, as Hurlocker explained, video is used to enhance literacy through the reading of on-screen lyrics.

L'Heureux shared a similar view. "Technology should be used as a tool for learning and not just a replacement for something else."

Aoba students share learning experiences through computers.

Morning work time at Saint Maur International School's Montessori Preschool

It should enhance what the students are doing and open learning channels."

Enhancing education through technology, while not allowing it to replace other important aspects of the educational journey, is a balance Nishimachi's kindergarten team works hard to maintain. "Young children need social interaction to foster social skills, such as sharing and taking turns. They cannot master social skills through digital learning," they told *The ACCJ Journal*, stressing that tech should not be used to replace human interaction.

While much use of tech is carefully planned—often with the help of integration coaches and technology departments—a big perk of having access to always-on portable devices is the chance for spontaneity. ASIJ's director of technology, Warren Apel, noted that educators might "see a way where technology could be useful, and be able to quickly intervene with a learning opportunity." Keeping this sort of device out of classrooms means such chances are lost.

When it is understood that technology is there for enhancement, it can find a home in virtually any methodology—including Montessori. As Fradale and Otsuka explained: "The underlying philosophy of the Montessori Method is based on student engagement and genuine inquiry. With that in mind, it isn't difficult to see that tech is a 'how' rather than a 'what,' and should pose no obstacle."

Levy commented that Maria Montessori, founder of the method, was herself known to be a progressive educator. And while we cannot know what her thoughts on digital technology would have been, she did believe children should use real-life objects to learn. "Not all Montessori early childhood centers embrace the use of digital technology in their educational environment," Levy said. "At Saint Maur's, we use it as a supplement—not a substitute—to foster emergent literacy and to reinforce the skills being taught."

Van den Berg, who was Montessori-educated from age two until high school, agrees that tech and the Montessori Method can go together. He believes that Dr. Montessori would have been accepting of technology—tablets included. "Most applications are self-correcting, develop problem-solving skills and critical thinking, and allow children to work individually at their own pace. With tracking systems for teachers to monitor children's progression, it makes education even more child-centered, as Montessori strived for it to be."

No matter the methodology, when used properly technology is just another instrument in the teacher's ever-expanding toolbox.

Learning to program Bee-Bots during ASIJ's Hour of Code.

BALANCING ACT

Educators understand that children growing up today will come of age in a world where their ability to effectively and safely use technology will be key to their success.

"Even if a student isn't allowed to use a device at home, they are immersed in a society that uses technology at all times," said Nishimachi's Brady. "The school has a responsibility to educate all students on how to stay safe and be literate in an increasingly digital world."

For van den Berg, this translates into an obligation to introduce tech during the early years. "Digital awareness is a language," he explained, "and the younger you learn it, the more proficient you will become."

While educators differ on some of the finer details, there is, for the most part, consensus tech belongs in the preschool and kindergarten classrooms but must not get in the way of developing other essential skills.

"As educators," said Levy, "we have a moral responsibility to help students limit their screen time, be balanced learners, and be responsible users of technology."

But no matter how tech is integrated into preschool and kindergarten classrooms, for Carrillo, what is essential to consider about early education is its holistic and unbounded nature. "The more social, active and interactive a learning opportunity can be, the more beneficial it is for a child." ∎

Exploring sound in the GG Kids classroom.

"Young children need social interaction to foster social skills, such as sharing and taking turns."