

THE BING TIMES

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From the Director: The Importance of Play for School Readiness

By Jennifer Winters, Executive Director

“School readiness” has received significant attention recently, with states, schools, educators, and parents striving to prepare children for the transition to formal education. Too often, however, the term is narrowly defined to refer to academic skills, leading many schools and parents to intensify their focus on formal reading and basic mathematics. As a result, play and its developmental benefits are sometimes relegated to the background. At Bing Nursery School, we don’t use an either/or approach. A program that offers young children high-quality play experiences with skilled teachers will lay the foundation for readiness for school and beyond. This is at the core of Bing’s mission and guiding principles.



With that in mind, let’s look at a morning in one of Bing’s nursery classrooms.

The dramatic play housekeeping area of the classroom is bustling with activity

daily, and the morning of Feb. 2 was no exception. On this morning, however, it was alive with children pretending to be doctors, EMTs, and patients in need of care—each of whom appeared to have significant medical experience, particularly in emergency medicine.

children into a scan from an X-ray, a doctor announced that a patient lying before him had an inside-out lung that needed to be untwisted. That prompted lots of tapping and examining of the patient. The activity continued for the better part of an hour until snack time interrupted the rhythm of play.

“I need to call the hospital,” rose a voice above the chatter of others. “Who knows the number? I think it is 255!” Off went a “doctor” talking into the phone, hands cupped around the speaker to relay a vital message about his sick patient. At one point, the children who assumed patient roles were lying in rows in the block area. The little doctors stood, crouched, and knelt over them, examining and dictating important information to their colleagues. There were serious illnesses, broken arms, and some very rare conditions. Holding a clipboard that somehow morphed from a list of injured

Teachers kept a watchful eye on hospital “staff” and occasionally asked questions: “It looks like Tilda has a lot of medicine; is that making her feel better?” A child replied that he had to call the hospital to check. The play continued, as patients lay on the carpet surrounded by a band of doctors pretending to administer medicine represented by pieces of pink and blue paper. Make-believe shots were

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administered with blue pieces of string connected to various found materials. One patient drew particular concern: She lay very still with her eyes closed, and they agreed that, indeed, she was dead. As the doctors and other patients gathered around her, a child said, “Bring on the magic!” Others joined in with the chant, and the patient opened her eyes. Cheers erupted across the room.

Young children play to make sense of their world. Real doctors in white coats holding stethoscopes and sharp instru-

ments can be frightening to many, and exciting to others, so acting out roles collectively helps children process what they know about the subject. But how does that help with the readiness they will need as they transition to kindergarten? Believe it or not, the skills children gain by participating in this type of dramatic play are precisely what they need for their next stage of life.

Children’s ability to engage in dramatic play—and play in general—allows them to grow and develop in the following ways:

- They develop language and literacy skills
- They gain empathy and compassion
- They learn how to read social cues
- They learn to self-regulate
- They boost creativity
- They nurture their imagination
- They improve their executive functioning

Why is executive function so crucial for young children?

According to Harvard’s Center on the Developing Child, executive function refers to a set of mental skills that underpin our capacity to plan, prioritize, meet goals, display self-regulatory behaviors, follow multiple-step directions (even when interrupted), stay focused despite distractions, adapt to new and unexpected

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Executive Director Jennifer Winters
Program Director Beth Wise
Editor Chia-wa Yeh
Assistant Editor Nancy King
Copy Editors Kim Kasabian
 Betsy Koningg

Bing Nursery School, Stanford University
 850 Escondido Road, Stanford, CA 94305
 (650) 723-4865 • (650) 725-1270 (fax)
 bingschool.stanford.edu



- They think more deeply about the world
- They express ideas and feelings
- They work together to solve a real or imagined problem

FIRE BOAT TO THE RESCUE

“I’m driving the fire boat to a fire on a dinosaur island,” a child exclaimed as he sat atop the driver’s seat of his boat built with hollow blocks. He stocked the shelves with essential supplies such as binoculars and food items. What did the child gain from engaging in this play? It supported his planning skills as he developed a series of steps for reaching and fighting the fire. He drove there in the fire boat, used tools to scope out the situation, and then brought out the fire hose. He also drew upon his problem-solving skills, imagining challenges to reaching the fire and figuring out ways to overcome them. What’s more, block play provided opportunities to learn about math skills like spatial relations, equivalencies, patterns, proportionalities, as well as science concepts of mass, weight, and balance. The child’s creativity and excitement sparked other children’s curiosity, and he invited them to join in and collaborate.



—By Elena Haase Cox, Teacher



situations, and, ultimately, engage in abstract thinking and planning.

Interestingly, while we are born with the genes that provide a blueprint for learning these skills, they are best developed through real-life experiences and practice. An upset infant learns to settle when soothed by a preferred caregiver—this is the beginning of emotional control. Something as simple as playing peek-a-boo or patty-cake helps to build the neural pathways of working memory and self-control. Early in an infant’s life, caregivers set up the framework for practicing these skills, and they can encourage games that promote imagination, role-playing, following rules, and controlling impulses.

According to the Harvard Center on the Developing Child, children who develop executive function skills early are more likely to show self-control as they age and transition to more structured learning environments. Neuroscience research shows these skills develop most rapidly in the preschool years (3–5 years). That is when children learn to negotiate, compromise, stand up for themselves, and build independence and problem-solving skills.

The National Scientific Council on the Developing Child emphasizes that executive function is fundamental for school readiness, calling it the “common denominator” for learning and social interactions. These skills, or “neurological connections,” are formed during the preschool and kindergarten years and develop best through real-world, physical



Source: Dr. Dale Farran • <https://bit.ly/Farran-iceberg>



play. Academic knowledge is essential, but children also need strong executive function skills to focus, remember, and plan effectively for school success. And play is essential to developing these skills.

Returning to our emergency room scenario, the children quickly negotiated roles, came up with multiple solutions to problems that arose, communicated fluidly in an ever-changing situation, listened to and followed directions, and used classroom materials creatively as their tools and instruments. This type of play is highly beneficial for developing the executive function skills necessary for future academic learning.

Play also helps children build the confidence and resiliency they will need to face future challenges. Learning to work together, share, negotiate, and move through conflict, children are learning necessary skills for kindergarten and beyond. In child-directed play, children move at their own pace; they make decisions and rules independently and with others. They can explore, discover, and pursue interests.

This is foundational to how their attitudes toward learning are formed.

Early education scholar Dale Farran proposed an iceberg model of learning to suggest that the most significant portion lies beneath the surface (invisible)—much like a house, the underlying foundation must be strong to support the rest of the structure. Farran uses that model to demonstrate that children’s underlying skills like curiosity, attentiveness, self-control, drive to

learn, and memory are crucial for building concrete skills such as learning letters, sounds, and numbers—the school readiness in early education.

To most effectively serve young children and ensure that they thrive, school readiness must be approached and implemented from a perspective that values and includes the many developmental benefits of play, along with a gentle on-ramp to the ABCs and 123s.

Young children have a natural curiosity about the world around them. They are innate explorers of their environment and are born wanting to communicate and to socialize. All of these fundamental instincts are best nurtured through play. We must encourage, not reduce or restrict that drive. It is our job as their caretakers and as educators to view school readiness through a lens that includes play and its full range of developmental benefits. **B**

Please see my earlier column for more on how play enhances school readiness: <https://bit.ly/play-and-school-readiness>.

“Supporting Children’s School Readiness” by Jelena Obradović

By Karla Kane, journalist and former Bing parent

Educators, parents, and caregivers hear a lot about executive functioning these days. We know it’s important, but why? What exactly is it? And how does it relate to academic readiness?

Professor Jelena Obradović, from the Developmental and Psychological Sciences program at Stanford Graduate School of Education and the SPARK Lab (Stanford Project on Adaptation and Resilience in Kids), addressed these questions and more in May at the 2024 Bing Distinguished Lecture.

What are executive functions?

As children ages 3 to 6 reach developmental milestones, such as gaining greater independence and agency, they are met with increased expectations regarding following rules, regulating behavior, managing emotions, and forming and maintaining relationships. It’s a lot—and it takes executive function skills.

So, what are these executive functions, or “EFs”?

EFs are cognitive skills that help children control their attention and behavior, Obradović explained. She divided these skills into three categories: inhibitory control, working memory, and cognitive flexibility.

Inhibitory control is the EF that develops earliest and involves suppressing impulsive behaviors and resisting distracting temptations. It’s necessary for meeting many family and school expectations and engaging in prosocial interactions.

Researchers have studied this response-inhibition skill using a peg tap task, in which children, instructed to tap pegs



Jelena Obradović

in a different pattern from the assessor leading the task, must consciously stop themselves from imitating them.

Perhaps you recall a psychological experiment involving inhibitory control (which originally involved Bing students) that became known as the “marshmallow test.”

It examined delayed gratification by offering children a higher-value reward if they could wait for it. “Response inhibition requires you to stop yourself from doing something you would otherwise want to do,” said Obradović. However, there are other factors, such as cultural context, that should be considered. For example, Obradović described a study by Yuko Munakata, a psychology professor at UC Davis. Munakata’s study was conducted in Japan and the U.S. and revealed that while American children are not used to waiting to eat and struggle to delay gratification with food, Japanese children find it easier. However, Japanese children are not socialized to wait to open gifts, while the American children in the study demonstrated less difficulty in that situation. A task is not an accurate measurement of cognitive effort, Obradović said, if it doesn’t challenge a culturally ingrained response.

So, how do researchers determine what is culturally specific versus what is universal? Obradović, alongside other scholars,

is working on Stanford’s Global Executive Function Initiative (<https://gefi.stanford.edu/>) to better measure development of EFs and how that impacts learning across the globe. The initiative has piloted a survey for caregivers and teachers on everyday behaviors, such as children waiting their turn, stopping a behavior or activity when asked, ignoring irrelevant stimuli, sustaining and regaining attention, and answering questions without losing focus.

The second EF component, working memory, refers to the ability to hold, update, and manipulate verbal and nonverbal information. We use working memory in many ways, from completing multistep tasks and following lengthy instructions to performing mental calculations, weighing options, remembering physical directions, and communicating information in an organized way. Methods for assessing working memory, Obradović said, include asking children to repeat a series of digits or words backward or to press buttons in an opposite or reverse order.

The third category of EF Obradović discussed is cognitive flexibility, which is developmentally the most advanced. It allows us to shift our attention between competing rules and mental states, to disengage and move on to new tasks, to solve problems in different ways, and to contemplate and discuss multiple viewpoints. Bilingualism, Obradović added,



By Charlie D., 3 years 4 months



By Mira S., 2 years 7 months

promotes these skills, and bilingual children exhibit this type of flexibility as they switch between languages with ease.

Obradović described a cognitive flexibility assessment game in which children are instructed to press a button when they see a heart. Later, they are instructed to push an opposite button when a flower appears, which challenges them to shift gears. Then, they are presented with a mixed trial, in which they must react to both hearts and flowers using the appropriate buttons.

Together, Obradović said, these EFs support life skills such as planning and organizing, starting and staying on tasks, pursuing goals and monitoring progress and mistakes, adapting to change, and regulating our emotional responses.

What does executive functioning have to do with school readiness?

Executive functioning, said Obradović, supports competencies in many cognitive areas, such as school readiness, classroom engagement, cooperation, and numeracy and literacy skills; socioemotional areas including emotional regulation, mental health, and relationships with family, teachers, and peers; and in the pursuit of goal-directed behaviors in general.

She pointed out that EFs can be particularly important during the transition to kindergarten. Citing a longitudinal study of more than 300 East Bay children from the start of kindergarten to early first grade, Obradović said that children who struggled with impulsivity



A crystal cave. By Franny A., 3 years 10 months

PROFESSOR JELENA OBRADOVIĆ

Jelena Obradović, PhD, is a professor at Stanford University in the Developmental and Psychological Sciences program at the Stanford Graduate School of Education. She completed a PhD in developmental psychology at the Institute of Child Development, University of Minnesota, and postdoctoral training in psychophysiology at the University of British Columbia. She is the recipient of a Jacobs Foundation Advanced Research Fellowship, a William T. Grant Foundation Scholar Award, and Early Career Research Contribution Award from the Society for Research in Child Development. Professor Obradović's research examines how the interplay of children's physiological stress arousal, self-regulatory skills, and quality of caregiving environments contributes to their health, learning, and well-being over time. She also studies how caregivers' executive functions and emotion regulation skills contribute to teaching and parenting practices that promote or undermine child development. Her current work involves the development of novel, pragmatic, scalable assessments of executive functions, emotion regulation, and motivation.

and inattention at the beginning of the school year had a worse relationship with their teacher at the end of the year, and impulsivity and inattention in kindergarten predicted more conflict in the future. What's more, children who enter school with these issues tend to enjoy it less, as developing positive relationships with peers and teachers is very important for fostering engagement.

Obradović also discussed the relationship between EFs and facing adversity, noting that stronger EF skills predict better adaptation and fewer mental health issues. EFs can also promote coping with stressors by helping children view situations from multiple angles and focus their attention on a solution (and/or help them stop fixating on negative thoughts). She also noted that the area of the brain tied to EFs, the prefrontal cortex, continues developing well into adulthood. "It's a really protracted developmental trajectory," she said.

Caregivers can nurture these skills by exposing children to educational materials and experiences that challenge them cognitively. They can also provide scaffolding—demonstrating, instructing, encouraging, and questioning—"probably all the good stuff that the teachers at Bing do," Obradović said.

She shared the results of a study in rural Pakistan in which 1,400 families with children aged 0 to 2 were divided into four groups: a control group, a

group given nutritional intervention, a group given parental intervention including coaching on play and communication, and a group given both types of intervention. The children were assessed at age 4. The study found that parental intervention had a direct effect on executive functioning.

Good nutrition in early childhood and living with an older sibling also help to promote EFs (Obradović said a study on the impact of siblings is underway in the Palo Alto area).

The importance of co-regulation

Caregiver-child co-regulation in early childhood affects self-regulation and development of EFs. When children are very young, Obradović said that caregivers help them regulate their emotions; around kindergarten age, children begin to regulate themselves more as their EF skills are further developed.

In a study at Stanford, children aged 4 to 6 and their parents were invited to participate in four tasks designed to elicit limit-setting, scaffolding, and cooperation behaviors. Researchers then observed the play session and used four categories to code parental behavioral states: positive control (actively engaged and scaffolding), observing and following the child's lead, disengaged, and upset/angry/frustrated. They coded the children's states as active/on task, passively on task, disengaged, or dysregulated/defiant, and

About the Author



Karla Kane is an award-winning local journalist and musician (best known as the lead singer, songwriter, and ukulele player in the band The Corner Laughers). She holds bachelor's and master's degrees in anthropology and lives in Redwood City with her husband and bandmate Khoi Huynh, her daughter, Octavia (a proud Bing alumna!), and several cats.

analyzed the co-regulation of parents and children. The research team was interested in whether positive measures of parent-child co-regulation predict teacher reports of classroom self-regulation skills and found that they do. They also hypothesized that over-engaged parenting (positive control while the child is actively engaged) may correspond negatively to self-regulation skills in children.

Indeed, parental over-engagement when a child is actively on task was shown to negatively relate to children's EF task performance and observed self-regulation. It's therefore important, Obradović explained, to sometimes step back and follow children's leads rather than attempt to make everything a "teachable moment." As a mother of two, she confessed she has struggled with this impulse herself.

How do executive functions relate to stress, adversity, and basic physical needs?

The brain's prefrontal cortex, the site of EF development, also has numerous receptors for stress. Obradović cited research showing that children who endure chronic risk and adversity (e.g., living in poverty for an extended period) are more likely to perform poorly on EF task tests. Stress within the family impacts sleep and cortisol levels, both of which affect cognition. Obradović and her team, curious to see how hunger, fatigue, and sickness might predict academic performance, partnered with the San Francisco Unified School District to study kindergarteners for three years.

They found that feeling hungry, tired, and/or sick in class predicted weaker early literacy, cognitive, motor, and socioemotional skills and that inequality factors linked to issues like food insecurity might help explain some of the racial and ethnic disparities in kindergarten readiness. Obradović said that their work also shows that "these health concerns predict academic achievement at the end of kindergarten year."

What does this mean for policy and practice? The inequities must be addressed, but it's also important to emphasize to educators that if a child is hungry or not feeling well, their behavior will not be optimal. "It's not about them being defiant or not following rules or not wanting to sit still," Obradović said. "These things are part of a larger system of inequalities." Children struggling with these basic health concerns may need appropriate behavioral support.

Having studied children's physiological responses as they encounter stress (either chronic or temporary), Obradović and her colleagues found that those with stronger EF skills regulate better after stressful evaluative challenges. We often hear that taking a deep breath can help ease stress. Obradović and her team wondered if a simple deep-breathing exercise could in fact induce momentary changes in children's physiological responses. They recruited more than 300 children and had them sit quietly for one minute to measure their baseline stress physiology. Then the children watched a brief video—a control video or one that guided them through a deep-breathing exercise (video available at <https://bit.ly/deep-breathing-for-children>). The researchers

found that even a short period of deep breathing lowered the arousal response.

Supporting EF skills at home

How can families better nurture emerging EFs and self-regulation? Creating opportunities to support burgeoning EF skills doesn't require expensive toys or fancy camps and classes, Obradović said. Everyday cognitively stimulating experiences include pretend play, sports and board games, singing, dancing, art, conversations, storytelling, and even doing chores. These activities can offer children the chance to practice holding information in their minds, understand appropriate behaviors, and adapt to changes. Obradović pointed out that when we think about emotional regulation, we think about calming down when feeling angry or upset, but experiencing positive emotions such as excitement and joy also exercises self-regulation skills. And just as with the airplane safety announcement about putting on your own oxygen mask before assisting others, caregivers should model self-regulation for their children by being attuned to their own needs as well.

Predictable routines with clear and consistent expectations can help ease the cognitive burden for children while EFs are emerging. Over time, Obradović said, caregivers can offer fewer reminders and instructions as a way to build independence, agency, and self-confidence. "It's really a play of balancing the supports and scaffolding with opportunities to do it on their own," she said.

As part of the post-lecture Q&A session, Obradović emphasized that supporting executive function development is not about analyzing every single parenting choice or agonizing over perceived mistakes but rather knowing that "every day has a thousand opportunities to do something right and a thousand opportunities to do something better." **B**



It's a superheo monster.
By Xander B., 3 years 7 months

Watch the lecture at
<http://youtube.com/bingnurseryschool>

Researcher Profile: Peter Zhu on Children's Curiosity About the Self

By Chia-wa Yeh, Head Teacher and Research Coordinator

How do children learn about themselves? Do they actively seek out information from others about things like their abilities or personality?

Peter Zhu, a fourth-year doctoral student in Stanford's Department of Psychology, has been studying these questions at Bing Nursery School for several years. He's part of the Social Learning Lab, overseen by his adviser, Professor Hyowon Gweon, and so far, more than 200 Bing children have participated in his studies. Zhu has become a beloved member of our community who enjoys an easy and warm rapport with the children. He grew up in Davis, California, and earned his bachelor's degree in cognitive science and psychology from Johns Hopkins University. Besides his research, Zhu's passions include playing tennis, hiking, and cooking.

I had the pleasure of interviewing Zhu about his academic work and the time he's spent at Bing:

Tell us about your research interests and studies.

My research interests center around the following question: How do we learn and think about ourselves? While a lot of prior work in the domain of cognitive development has focused on how children learn about the world around them, I'm particularly interested in how children learn and reason about themselves, including their abilities, personality, and more. Learning about ourselves is critical to growing up: To guide our actions in this complex world, we need to understand what we are good at, what others think of us, and who we are.

My research primarily uses experimental behavioral methods with children to answer these questions. At Bing, I've run a variety of studies that investigate children's curiosity about themselves (fo-

cused on how a researcher thought about a drawing they made), and how they reason about themselves (in particular, how they reason about their past interactions with a toy or machine and use this information to guide their future actions).

How did you become interested in this line of research?

I first became interested in developmental science as an undergraduate. I took an intro-level cognition course, and we had a module about developmental cognitive science. The instructor started off with a simple observation: The goal of cognitive science is to study and understand the human mind, and only one biological organism in the world has figured out how to engineer a mind. That organism is the developing child. The point being that studying developing children (in particular, how they learn, what knowledge they have, and more) can give us particularly strong purchase on the components that make a mind and, consequently, what makes us human. From that moment, I was hooked!

After taking the cognition course, I joined a developmental science lab as a research assistant. I got particularly interested in social cognition (i.e., how children reason about other people and agents around them) and quickly realized that the field seemed to be missing one key thing: How does the child



It's a button computer and when you press the button, it blasts off in space. If you press the black one, it comes back home! By Cora G., 3 years 8 months



factor in as an agent themselves? How do children even think about themselves? I then learned more about this topic by reading foundational work in the field, and some of those experts are here at Stanford, like Dr. Carol Dweck.

Tell us about the studies you've conducted at Bing.

One of the most important and extensive studies I've run at Bing is a project that investigates children's curiosity about themselves. Specifically, one powerful way in which children may learn about the self is through receiving information from others. Although recent work demonstrates that children care about, and even attempt to manage what others think about the self, relatively little is known about children's desire to seek out information about the self. Across two studies, we asked: Are children curious to find out what others think about them, and do they actively seek out this information?

In Study 1, with 40 children aged 3 to 5, children were assigned to either the "Self" or the "Other" condition. Children were invited to make a drawing and told that another child named "Jordan" (presented with a photo gender-matched to the child) had also made a drawing. The researcher placed the two drawings (the child's and Jordan's) in separate

folders and said he would evaluate both drawings and place a sticker inside of the folder if the drawing was “really good” but not if it was “just OK.” After evaluating the drawings out of sight in a corner of the room, the researcher stepped out of the room, pretending to answer a phone call, but left behind one of the folders on the table in front of the child (the researcher kept an eye on the children throughout). The only difference between the two conditions was which folder the child was left with: either the folder that contained their own drawing (“Self”) or Jordan’s drawing (“Other”).

Children were left with the folder in the room briefly, and we measured whether children peeked at the folder to gain information about what the researcher thought of the drawing, and if they peeked, how long it took them to peek. Notably, all children received a star, and the drawing was never actually evaluated, but since the “evaluation” occurred out of sight, children were uncertain whether or not there was a star and would have to peek in order to satisfy their curiosity. The question is: Are children more likely to peek when it is their drawing (Self condition)?

As predicted, children in the Self condition were more likely to peek inside the folder (13 out of 20 versus 5 out of 20) and peek more quickly compared to children in the Other category. Yet, one might ask: Is it possible that children were peeking more in the Self condition simply because children value stickers, and more children wanted to see the sticker inside “their” folder?

To address this possibility, we conducted Study 2 with 72 children aged 3 and 4. This time, the sticker was replaced with a paper slip with a circle on it, which has no intrinsic value. Study 2 replicated Study 1’s findings: Children in the Self condition were more likely to peek (20 out of 36 versus 11 out of 36) and faster to peek than children in the Other condition.

What do the results tell you?

We take these results to suggest that even early in life, children are curious to know what others think about them; children were more willing to peek inside the folder to attain information about their own drawing than a peer’s. This suggests that children actively seek out information about themselves from others.

Describe your experience working with children at Bing and how it inspired your research. Any tips for establishing a rapport with them?

I’ve had an absolute blast working with children at Bing; I am constantly impressed by how the teachers operate the classroom and how the children play and interact with each other. In terms of establishing rapport, I usually recommend that researchers allow children to show them what they are working on in the classroom, to ask children to say a little bit about what they are interested in and like to do in the classroom, and to allow children to lead you!

My experience in the classroom has definitely impacted the way I think about

science: In fact, part of my research on how children learn about themselves was inspired by the children’s behaviors in the class. I would observe that they were very eager to share their work and accomplishments with others, but also that they would sometimes ask for help when they felt that doing something was outside of their abilities or comfort. While these behaviors are seemingly innocuous, they reflect a deeper understanding of their competence and of themselves, and they flexibly deployed this to show off their abilities, persist on some tasks, and ask for help on others.

What are your next steps?

In the next version of our study, we’re extending the curiosity task to another domain by asking whether children are curious to find out other kinds of information about themselves. The researcher will ask children about their favorite things and input their answers in a machine (e.g., a laptop computer), which will tell them what kind of animal they can be like. We then measure whether children are curious to figure out what animal the machine says they are. (We make sure to end the study by reassuring children that they can be many types of animals.) In preliminary data, we’re finding that children are indeed curious to figure out what animal they are like.

Could you tell us about Bing Nursery School’s function as a site for training PhD students for their future careers?

As developmental scientists, we’re very lucky to have Bing as a resource, not only to collect data for our studies but also to work with an awesome and rich environment of staff, teachers, and students. Almost every developmental psychology PhD student has gone to Bing to work with the children, simply because it’s such an amazing place! We can get really tailored, hands-on experience with children in an environment that is so welcoming to research (both from the staff side and the family side), and I feel really grateful to have had my training as a scientist at Bing. **B**



By Tristan V., 2 years 7 months



By Yao Yao and Qi Qi T., 3 years 5 months

The Journey from Seed to Plant in Our Twos Classroom

By Rinna Sanchez-Baluyut, Head Teacher

“Plant the seeds of wisdom in children’s hearts; they’ll grow into forests of understanding.” —Unknown

This spring, the Twos studied butterflies and learned how they start life as caterpillars before emerging from a chrysalis and spreading their wings as butterflies. Two weeks after releasing our metamorphosed butterflies in our yard, most of our Twos children experienced another fascinating transformation process. Taking advantage of the glorious spring weather, and with our garden filled with bright-colored geraniums and daisies in full bloom, it was the perfect time to introduce our children to the wonders of planting.

With their little clear cups in hand, the children scooped some soil, sprinkled in several lima and pinto bean seeds, and gently covered them with soil. Once the seeds were planted, the children watered them with a squirt bottle and placed their pots in a sunlit spot in the classroom. Each day, children would check in on their little seeds and water them with care while eagerly anticipating any signs of change.

The teachers conducted a poll, asking the children, “Do you think the seeds will grow?” Most responded, “Yes!” As the days and weeks progressed, tiny green sprouts began to appear, sparking a sense of amazement and delight among the children. Observing the changes excited the children, motivating them to continue nurturing their little plants. Over time, the stems lengthened, and leaves sprouted, prompting the children to exclaim, “It’s growing!”

In addition to using clear plastic cups, we also tucked lima and pinto beans into plastic bags with damp paper towels. The bags were hung on a stand, easily accessible for children to view and examine.

Without dirt, the clear bags allowed the children to observe the process of germination. They could see how seeds sprouted and developed stems, leaves, and roots.

To deepen the children’s understanding of how a seed grows into a plant, we integrated related elements into the curriculum. For instance, during story time, we read books such as *Apples Here!* by Will Hubbell, *The Enormous Potato* by Aubrey Davis, and *The Turnip* by Pierr Morgan (which the children also chose to act out). Caring for their tiny pots of seeds soon extended to tending our garden boxes in the yard. The children also fully embraced watering our flowering plants, such as the geraniums and daisies, and the fresh mint in our garden.

The process of planting seeds invited the children to both actively participate in and quietly observe the experience as it unfolded. This simple project offered them many learning opportunities:

- **The value of patience:** In a world filled with immediate gratification, this experience provided children with delayed gratification, requiring them to patiently wait for the seeds to grow. Over the course of days and weeks, not only did the children have to wait for their seeds to sprout, but they also had to remain dedicated to caring for them. What’s more, as some seeds sprouted, others did not, prompting children to wonder why. In subsequent days, they became aware that more seeds had sprouted as they continued to care for them, demonstrating that sometimes growth takes time.
- **Building community:** As the children were highly invested in tending to their seeds, they generously offered to help



water and care for the other children’s pots as well. Similarly, when some children had difficulty using the spray bottle to water their plants, other children offered their help.

- **Learning:** The hands-on experience of working with soil, seeds, and water and steadily observing the transformation from seed to plant provided children with countless science and math skills. The process of germination is a marvel of science, one that walks children through each stage from seed to plant. The math skills practiced by the children included counting the seeds and the number of times they squirted the water bottle; noting the various qualities of the seeds, such as color and shape; and recording how many children in our poll responded “yes” or “no” when asked if they thought the seeds would grow.
- **Environmental stewardship:** By appreciating the beauty and wonder of nature, the children developed an awareness of and interest in caring for and protecting their environment and the world around them. We hope this is the beginning of a long-lasting, joy-filled relationship.

Just as the children witnessed the transformation of their seeds sprouting and blossoming into plants, we too witnessed our Twos children make incredible strides in their growth and development. **B**

Bridging Home and School: A Child-Centered Approach

By Sadie Parrinello, Head Teacher

Building trusting relationships may be thought of as the primary developmental task—the very foundation of a 2-year-old’s introduction to Bing Nursery School as they venture from home to school. For most children, entering the Twos classroom is their first experience in being part of a community outside the family unit. Here, each child’s experience of transitioning from home to Bing’s Twos program is unique. It’s a delicate and intentional response from teachers, who support each child’s experience with gentleness and consideration for their individual personality, background, and family. For some, the transition is seamless, with children showing poise and confidence as they embark on the new experience. Other children may feel quite tender about separating from their caregivers. In every case, teachers work closely with parents, responding sensitively to everyone’s needs. Building trust with children can’t be hurried—it takes time to understand each child and to establish meaningful relationships.

One of the first points of intersection children have when entering the classroom is placing a piece of fruit brought from home in our share basket. The fruit is there to enjoy at snack time, but it also represents home and family, and serves as a bridge of connection between home and school. In concert with everyday classroom arrival routines, each family creates transition rituals of personal meaning.

For some, it’s the reciprocity they encounter with Charlie, our classroom’s pet rabbit, when they bring him a handful of parsley in the morning and enjoy a warm connection in return. For others, it’s the independence they enjoy in a space designed specifically for 2-year-olds to inhabit autonomously. Prior to engaging in a breadth of activities, some children create a painting for their parents, tangibly bridging the connection between

home and school while also signifying the bond with their family. Even as children develop increased interest in negotiating and independently exploring the world outside the home, these paintings or other crafts created and saved for a parent hold sentimental meaning for the child as a placeholder until the parent returns at the end of the school day.

A measured approach to the process of saying goodbye reveals to children that their feelings are important to parents, caregivers, and teachers—significant insight for children to develop as they enter the Twos program and begin advancing their ideas about the world. While there are many ways for parents and caregivers to approach separation, the following is a general arc for families to consider as they determine what works best for them:

- Engage in an activity with your child of your child’s choosing.
- Give your child a concrete understanding of where you’ll be after you leave the classroom (e.g., to work or grocery shopping, though ideally your child won’t be particularly interested in the activity you intend to do). Make sure your child and teachers know who will be picking them up at the close of the day.
- Say goodbye, rather than departing when your child is playing or distracted, then follow through and depart when you say you will.
- Return when your child expects you to arrive.

By design, Bing offers a gradual beginning to the Twos program, including a parent-only orientation meeting and a small-group (half the class) visit day when parents stay and play alongside their children, making meaningful and shared connections as a family with the nursery school. We also offer home visits to establish a rapport with children and



families, which helps children to build trust with teachers and contributes to a successful transition to school.

Additional strategies teachers use to support transitions are discussed during our fall conferences with families, when teachers listen carefully as parents share their child’s developmental history and provide information that helps teachers to personalize the approach. Understanding what comforts a child is very valuable information for teachers and helps to frame our thinking and approach with each child. Some children use a transitional object, such as a blanket, toy, or article of clothing, to give them a sense of security when entering a new situation. Child-centered in our approach, we bring a compassionate response to children’s emotionally vulnerable moments. The outcome we strive for is one where children meaningfully engage in the classroom as their special place beyond the haven of home.

It is perhaps the most intricate work of the teacher to support a child’s transition from home to Bing. Intuitive creatures, children can feel and discern when they are cared for with genuine consideration for their uniqueness. These deeply meaningful experiences and milestone events form part of the foundation and influence the trajectory of children’s self-concept and their relationships throughout the early childhood years. **B**

Digging Deep: The Importance of Sand Area Play in East AM

By Todd Erickson, Head Teacher

There is a symphony of sound and movement unfolding in the East Room sand area on a cool spring morning: the scraping of shovels as diggers heave scoopfuls of sand from one spot to another. The shouting of plans as excavators sculpt a river that snakes through a large swath of untouched sand. The dribbling of water, carefully added to large, sand-filled bowls by child chefs at the playhouse restaurant.

In our morning program, also known as EAM, the children explore and engage with their whole bodies. Their play is inspired by the sensory and physical aspects of their classroom. Nowhere is this more evident than in their work with what the teachers call our basic materials. These materials—blocks, clay, paint, sand, and water—are available every day in our classrooms. They are open-ended, complex, and fundamental to the experiences of children (and adults), and offer limitless possibilities for play, exploration, and understanding.

Sand's unique properties provide our EAM children with a particularly rich opportunity for learning and growth. At its most basic level, sand delights the young (and the young at heart!) with an evolving sensorial feast. A handful of dry sand might feel soft and slip freely between the fingers. Rub that same sand between the hands, however, and it might feel a bit rougher. Dry sand can be collected in a hand or a container, but it does not retain its form when poured or emptied. By adding water to the sand, children notice that its composition begins to change and that it's able to retain its shape.

Located in the corner of EAM's outdoor classroom and nestled among towering redwood trees, the sand area, or sand pit, is the largest offering of any of our classroom's five basic materials. It is approximately 200 square feet of sand,

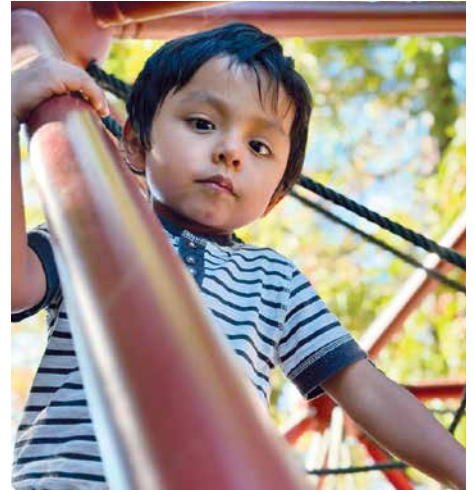


trees, pinecones and needles, medium-sized boulders, climbing equipment, a slide, and a playhouse. When parents notice that their children spend much of their mornings playing in the sand, our response is usually, “How great to hear it!” That is because the sand area is an oasis of integrated opportunities for physical, social/emotional, linguistic, and cognitive expansion.

The sand area is a place where children can flex their motor skills. Shovels, scoopers, buckets, cups, molds, and wheelbarrows make it possible to dig, collect, and transport sand around the space. When a child digs or scoops sand or carries it across the sand pit, they are testing their large motor capacities, which include muscles across the legs, core, shoulders,

and arms; they are also building balance, stamina, and spatial awareness. Early in the spring quarter, the children engaged in what the teachers called a “big hole project,” which involved a week's worth of digging and scooping sand from what became a large oval pit. As the big hole project was taking shape, other children were near the playhouse, using stirring spoons to scoop, pour, and stir sand (along with water and other found materials like pinecones, sticks, and small rocks) in a variety of bowls, tins, and pans to make soup, cake, salad, and other delectable dishes. This process involves fine motor work, including the use of fingers, hands, and wrists as ingredients are added, sifted, and stirred. Along with fine motor skills such as dexterity and precision, this sand area “cooking” also requires coordination, planning, and overall muscle strength.

A visit to the sand area would not be complete without time spent on the geoclimber or the slide. Much like the sand itself, this equipment greets and challenges children at all developmental levels. While less experienced children might find it exciting to climb the steps and zoom down the slide or pull themselves up to the first level of interwoven



ropes that comprise the inside of the geoclimber, the more confident or competent children will pull or walk themselves up the slide or ascend to the very top of the geoclimber, some 15 feet in the air, to take in the sights and sounds from their lofty perch. We often ask, “How’s the weather up there?” once they’ve progressed to the next stage of their geoclimber mastery.

There is a wonderful sense of camaraderie that builds as groups of children team up to dig a river, an almost daily endeavor in the sand area, or to prepare a meal. The teachers might begin the morning with the question, “Who’s feeling strong today?” which quickly brings together a team ready to craft the latest sand area river. While digging, children hone their perspective-taking skills as they consider the thoughts and feelings of their teammates while also building negotiation and collaboration skills. And if, say, the red shovels are in high demand, children might have to plan to take turns, which bolsters patience and delayed gratification. Another vital aspect of this dynamic teamwork is the expressive (outgoing) language skills practiced by the children as they make plans, debate ideas, and self-advocate. At the sand area kitchen, the children might list and classify the recipe items needed for their special soup. The chefs might also deliberate the various steps and timing needed

for gathering and mixing ingredients, baking, and serving. As the children listen carefully to the ideas offered by their peers, they also form their receptive (incoming) language skills. In this way, communication and language are “baked” into the children’s play. We are fortunate to be able to teach in what the EAM teachers call a “language laboratory,” where both expressive and receptive language is imbued with meaning and agency as it is integrated into all aspects of our indoor and outdoor classrooms.

When a sand area river needs to be rerouted, the hard-working children might use their hands and shovels to create a dam. Similarly, the sand area chefs might use sticks for candles on their birthday



cake. In both instances, the children are engaging in symbolic thinking, a mental process through which one object might symbolize or represent another. Symbolic thinking is found across the play of young children and is vital for future learning. If children can deftly use sand to symbolize a river dam, for example, it will pave the way for the cognitive switching that will take place as they grapple with very significant symbols: letters (where a “T” symbolizes a sound and part of a word) and numbers (where a “2” symbolizes an amount). Sand-area work also affords children greater cognitive flexibility. For instance, as they consider the perspectives of their peers and adapt their own ideas or needs accordingly, they become more adaptable. And naturally, playing in the sand can get quite messy, which allows children to build their cognitive and emotional elasticity when it comes to sandy clothing and mucky hands.

Sand area play often involves another Bing basic material. Water from the hose might help fill the riverbeds so diligently created by sand area diggers. Water collected in a large bin might be painstakingly added to the chocolate pie concocted by a team of sand area cooks. As children add water to sand, they begin to notice how it changes in terms of density and texture. “The sand used to be dry, now it looks like chocolate,” observed Gil one morning. “It’s really muddy,” added Kian. We welcome the children’s ideas all day, every day, and



are interested to hear how they perceive the changes brought to sand when water gets added. Our intrepid thinkers might also enjoy hands-on experiences with water as it enters the riverbed. While the children might not head home and tell their parents, “We worked with erosion today,” these are the hands-on and foundational experiences that begin to open their thinking to more abstract ideas like erosion and infiltration.

The sand area offers something for everyone—and each domain of development (physical, social/emotional, language, cognitive) tends to inform and be informed by the other domains. Rarely is there a moment of social opportunity that does not include emotional or language benefits, for example. This intense and organic integration is yet another benefit offered by all of our basic materials. For an example of how sand area play can touch many domains simultaneously, see the sidebar, “More Than Just a Pipe Dream,” by my colleague Melissa Gier. This extended sand area experience, which took place in the spring quarter of 2023, is an excellent illustration of the resonant play and hands-on learning that takes place in EAM’s sand area every day.

When time allows, spend a few minutes in the sand with your child, whether at a local playground, the beach, or Bing’s sand area. Dig deep into the immense benefits and undeniable fun that sand play offers us all. **B**

More Than Just a Pipe Dream

Sand and water are two of Bing’s five basic materials (along with blocks, clay, and paint). These two materials often go hand in hand with each other, promoting a child’s development and challenging them physically and cognitively. They offer opportunities for collaboration, deep critical thinking, and trial-and-error, all of which were on display in an ongoing pipe exploration on a chilly April morning in East AM.

William and Sloan were both in the sand area but playing separately. Their usual playmates were absent that day, and William decided to explore how the PVC pipes worked in relation to water, which intrigued and drew in Sloan. Eventually, the two decided they needed three long pipes to be connected, with the pipe in the middle being slightly raised. Sloan brought the hose over and inserted it into one of the end pipes. William said, “Wait, Sloan! I have to close up this extra hole, so the water doesn’t escape through.” He proceeded to seal the hole by covering it with sand then said, “OK! It’s ready!”



The hose was inserted into the pipe, and when the water was turned on, it splashed back out the same way, much to their disappointment. William was certain it was because the hose was smaller than the pipe and decided to “close” the gap between the hose and pipe by filling it with sand. Unfortunately, the water continued to exit back through the hose entry point.

Sloan and William spent the next several minutes discussing other strategies, implementing more ideas, and seeing them not reach the desired result. They then thought the water must be going down because the pipe was going down. Sloan brought over a chair and laid that first pipe on it, inserted the hose, and turned on the water and ... success! The water finally made it all the way through the first pipe, only to exit out the gaps in the middle pipe. Unphased, William exclaimed, “I know! It needs more sand! Help me, Sloan,” and together they blocked the gap with sand, forcing the water out of the last pipe. William and Sloan danced around and squealed with joy.

These two children spent that entire morning, and the following five months, adding more pipes and children to their play. Each day, their pipe/water exploration expanded, as children created new challenges for themselves. One day, they dug a hole in the middle of the sand area, with the goal of connecting the pipes from the start of the hose to the hole, then filling the hole by guiding the water through the pipes. Another day, the children decided the end pipe should stick straight up to make a “volcano” with the water erupting through the top. And one day, their goal was to ensure no water exited any of the pipes. While not every challenge was successful, they all facilitated teamwork, creativity, observation, critical thinking, patience, and perseverance.

This extensive child-driven project speaks to the array of possibilities that occur daily in the sand area, where water, sand, and a variety of other materials (including pipes) are available to spark the imagination and spur development among the East AM children.

—By *Melissa Gier, Teacher*

Exploring Math Concepts Through Play

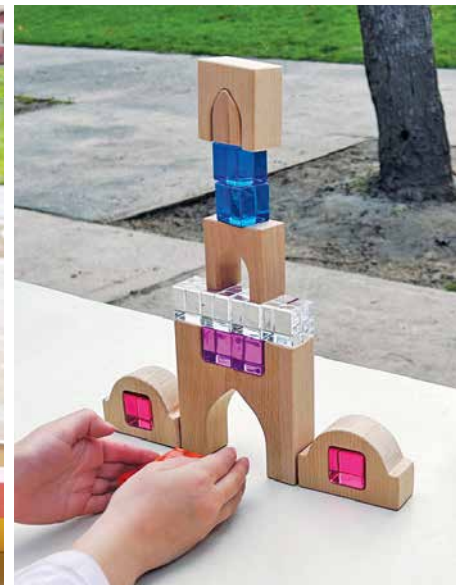
By Mark Mabry, Head Teacher

We often think of math learning as consisting of concepts—addition, subtraction, counting, or number recognition—that are taught didactically. However, as young children play, they are constantly and actively exploring these ideas and constructing their math knowledge by observing, experimenting, and sharing insights with one another.

When children encounter mathematical ideas in the context of their play, they are motivated to delve into these ideas deeply and gain personal hands-on understanding of the underlying concepts. Rather than writing down equations using “+,” “-,” and “=,” they count the children sitting at their snack table that day and then think together about the empty chairs to figure out how many of their friends didn’t come to school, or they posit, “But we forgot to count the teachers! Now, how many are there?” They often think about their ages and how that might relate to their heights. They want to quantify how many wood pieces, nails, and connectors they used in their woodworking projects. They display a natural affinity for balance, symmetry, and pattern as aesthetic qualities in their artistic and constructive endeavors.

Math is about quantifying the relationships that exist between the things we encounter in our everyday lives, and children are naturally attuned to exploring these connections.

There are any number of premade materials to inspire and enhance numeracy experiences, including Unifix Cubes and Cuisenaire rods,



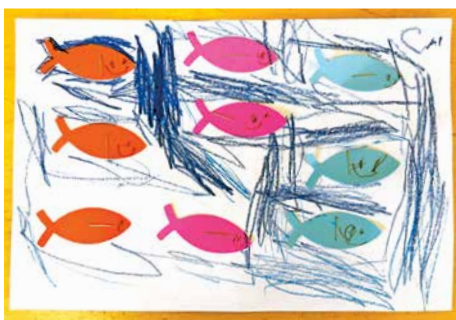
Top: A child builds with unit blocks to experiment with symmetry and pattern. Above left: A child creates symmetry with magnetic cubes. Above right: Shape and color symmetry using cubes and castles.

both valuable additions to our classroom. But there are also so many organic mathematical opportunities that our children encounter on a daily basis in their play. It is worth noting that many of these math topics overlap and integrate with each other—for instance, the concepts of symmetry, patterns, and geometry intertwine.

Symmetry

Children are often exposed to the idea of “the same on both sides,” or bilateral symmetry, when they construct projects using items such as Legos, blocks, and art materials. They carefully study one side of their project and create the mirror image on the other side.

PATTERNS



Above top: A colorful tower with alternating shades of orange and red. Above bottom: A child's depiction of river fish—based on horizontal and vertical patterns.

Patterns

Patterns can appear as simple or complex repeated sequences in mathematical thinking. Children are naturally drawn to create these arrangements as they play with manipulative objects, create art and design work, or build with blocks.

COUNTING



Above: A child figures out how to count our collection of fruit stickers by marking each counted one with a cube.



Above left and right: A child carefully counts how many blocks she has stacked in her tower.

Counting / One-to-One Correspondence

Counting is more than being able to recite the numbers from 1 to 10 and beyond; it entails understanding one-to-one correspondence and keeping track of what has already been counted. Children are continually counting how many blocks they used in their



COUNTING

MEASUREMENT



GEOMETRY



Above top: A child using chain links to measure teacher Mischa. Above left: A child counts his Unifix Cubes, and those of teacher Mark, and compares the two numbers. Above right: A child measures himself in relation to his tower.

Above top: A child constructs a truck ramp with planks and discovers a parabolic curve! Above left: Navigating turns to complete a train track circuit. Above right: Curve fitting with hollow blocks.

SETS



Above top: Acrylic cube pairs. Above bottom: A child creates a set of animals he has seen at the zoo.

construction, how many children are sitting at their snack table, and more.

Measurement

Rather than thinking in terms of conventional and arbitrary units, such as inches or ounces, children are interested in determining how high, how long, and how much, using units of their own devising, such as a length of yarn or their own height.

Geometry

Children develop their spatial understanding of an object's distance, shape, size, and position as they explore these relationships while playing with blocks or Brio train tracks and experiment with connectivity, lines, and curves.

Sets

Sets are an important part of math knowledge as objects that share characteristics—including shape, size, and color—can be grouped together. Children instinctively like to sort the materials they play with, grouping miniature animal by species, perhaps, or dividing cubes according to color.

Sequencing

Sequencing refers to arranging objects, often in a linear way, to represent a mathematical element like height, quantity, volume, or color. In the process of sequencing, the concepts “less,” “more,” and “equal” arise, prompting children to investigate further by sorting and lining up their play materials, say, from shortest to tallest.

SEQUENCING



Above top: A child builds a cylindrical staircase. Above middle: A child makes equal sequences of colors. Above bottom: A child sequences graduated cylinders by height and other items by size.

These are just a few examples of how children engage with math in their everyday play. As teachers and parents, one of the most powerful things we can do to encourage and enhance their exploration of these ideas is to notice and acknowledge their “mathematizing,” while recognizing their joy of discovery in play. Rather than rush them to embrace abstract representations of math, our role is to invite and allow them to construct foundational knowledge of these essential concepts. **B**

The Day Turok Came to Center PM...

The fauna of Bing’s outdoor spaces offer abundant opportunities to learn about the local natural world. In the spring, however, an animal ambassador visited from farther afield. Turok, a chahoua gecko natively found in the trees of New Caledonia in the South Pacific, joined Center Room for an afternoon of observational drawing in the art area.

Teachers often share their passions with the children, providing an organic entry into a love of learning about unexpected topics. Teacher Shawn Hott, for example, lives with a menagerie of animals, including Turok.

As the children interacted with the little gecko through sight and gentle touch, they were captivated by his surprisingly soft skin, webbed toes, and strong, prehensile tail. They theorized about Turok’s diet and how his body helped him adapt to life in the trees. They used watercolors to artistically convey his many shades of green and brown.

Painting Turok helped the children practice their fine motor skills as they carefully translated his features onto paper. It also encouraged them to sharpen their powers of observation, as they picked out small details like the shape of his eyes or the curve of his toes. Turok’s visit touched on art and science, and meeting the small creature also nurtured empathy. As the children gazed at Turok, they began to muse about his inner world.

—By Mischa Rosenberg, Teacher



By Happy N., 5 years 4 months



By Milla B., 5 years 8 months

Who Said “HOO”? Owl Sighting in the Center Room

By Parull Chandra, Head Teacher

As teachers returned to Bing Nursery School after winter break, we heard unusual sounds coming from the redwood grove on the west side of the yard. The sounds were beautiful, and we found their source when we noticed two owls perched high in a redwood tree. They were amazing creatures but also difficult to see, so the following weekend, a teacher brought a camera to document the sighting and make sure the children would not miss this incredible discovery. Now we had proof that two great horned owls were perched in our tallest redwood tree. We realized they had arrived during the quiet three-week break and were probably not expecting the hustle and bustle of children once we reopened.

The children responded with enormous excitement. They intuited that this was no ordinary sighting, and their delight was the impetus for our in-depth investigation of owls: how they live, what they eat, and how they survive in our environment. At Bing, we use the project approach, where children undertake an investigation of a subject of interest to them. Dr. Lilian Katz, a respected early childhood education expert, advocates providing young children with “standards of experience.” These are experiences in which children are engaged with extended interactions with and investigations of their environment. According to Katz, these experiences encourage children to



become intellectually absorbed and build confidence in their thinking abilities.

Look What We See and Hear: Observing Our Feathered Visitors

Owls hold a special place in human culture and mythology, one that is often associated with wisdom and mystery. Once the children knew about the winged visitors to the grove, they were very motivated to begin their exploration of the owls. Teachers created several viewing stations in the grove with binoculars and clipboards. Children shared their observations with each other and in our classroom newspaper. Teachers encouraged children to ask questions and find answers through investigation, while also providing books on owls so the children could research the particular type we were watching from a distance. After conversing with each other about what they’d learned about owls, children shared their knowledge in groups, as the teachers offered more resources, asked thought-

provoking questions, and documented the learning process. Parents, along with their children, gathered around our circle of redwood trees to catch a glimpse of these magnificent creatures.

Teachers started the project by asking, “What do you know about owls?”

The children’s responses were varied and telling. Nina compared the owls to herself and said, “Sometimes I’m still scared of the dark. Owls are not scared of the dark.”

Everett learned the meaning of the word “nocturnal,” explaining, “Owls are nocturnal. They sleep in the morning. But we need to get an owl expert to tell us.” Frances was silly and said, “Owls wear party clothes.” Focused on the birds’ nutrition, Gabi said, “Owls eat mice.”

Teachers took videos of the owls; as we studied them with the children, we noticed a big nest at the very top of the tree. Wondering if there would be owlets, the children were eager to see what was happening inside the nest and brainstormed ideas for how they might go about it. A very long ladder was by far the most popular suggestion.

Unpacking Owl Pellets

After one of the children and her mother discovered owl pellets around the tree, we carefully collected them, dissected the regurgitated masses and discovered tiny,



fragile bone fragments. This discovery motivated the children to come to the grove every morning to search for new pellets. We gathered the pellets and used tweezers to pull the fur and feathers from the bones. The children found a variety of different bones, which they sorted and compared in a chart, to identify the name of the bone and the animal to which it belonged. They were excited to be detectives analyzing our owl friends' meals, curious to figure out what the owls ate and what they regurgitated.

Teachers asked, "What is an owl pellet? What's in the owl pellet?" Juliette said, "Owls spit it out. This is their throw-up." Alex said, "Bones they don't like to eat." Isiah was sure of himself and said, "They eat meat, and they eat lots of mice and rats. Maybe they even eat some squirrels."

By dissecting owl pellets, children engaged in a blend of environmental science, anatomy, and ecology. They gained insights into owl species, their prey, and the intricate web of life in their ecosystems, fostering a deeper appreciation for the natural world.

Did Our Owl Visitors Fly the Coop?

Focus on the owls became a daily activity. The children would head out to the grove for updates, and they served as docents for parents and other adults who visited. Alas! After two weeks, the owls were nowhere to be seen—and still, the owl project progressed, and the children continued their explorations.

"Why did we see the owl before?" they asked. "Where are they?"

The children offered theories as to why the owls were gone.

Ella thought: "Maybe they are in a different tree in a different school." Alex had a different opinion: "We have a crow problem. Let's make a scarecrow to get rid of them. They are bullying our owls."

Arian wanted to find them. "They are so high up in the tree," he said. "Teacher, maybe I can climb up and see?"

Michael did not want to speculate: "They left our yard, and I don't know where they went."

Lina was sure they were safe: "They went with their mama."

Frances came up with another hypothesis. "The owls are on an airplane going to New York."

Nolan was ready to personify the owls: "The owls are in a tent because it's raining."

Creative Ideas to Bring the Owls Back

Disappointed that their feathered friends had left the grove, the children brainstormed creative ways to bring the owls back. This shared interest brought new groupings of children together. The classroom was truly one family of learners.

Sawyer said, "We should call them and say, 'Owls, come back! Come back!' I made a nest and put it at the end of the tree. That's how we can get them back. Maybe they like graham crackers."

Nolan suggested, "Maybe if we put an owl book outside."

Stevie said, "We should bring a book to them and some money, so they come back."

Siddharth said, "I'm making some chocolate for the owls; that's how they'll come back."

Amirsalar said, "Draw a picture of the owl."

"Put some food on the ground," said Natalie. "Maybe dead rats."

Charlie agreed that food was the answer: "The owls are gone. Put seaweed on their nest, they'll come back."

Using critical thinking and problem-solving, the children focused their play on how to bring the owls back. For example, they built nests with natural materials to entice the owls to settle in a new home. They decorated an owl box donated to our classroom by a Brownie Girl Scout.



They helped Gene, our school carpenter, to measure and hang the owl box on a "perfect tree" chosen by Archer M., who determined it was optimal for attracting the owls back to our yard.

Although we couldn't see them anymore, the children were convinced the owls were close by. Their interest remained robust as they made nests with materials we found in the yard, along with bark and sticks they brought from home. Many hoped that if they created a home for the owls, they would return. Some created clay owls and built fences around their nests so they would not escape. Some children created an "owl express office" to talk to the planes they thought were transporting the owls back to Bing. Children's play was enlivened as they set up a runway for the "owl express" "coming from the southwest," and they communicated with the pilots using walkie-talkies and phones to assist the landing. Archer was particularly invested in this dramatic play and involved many other children. "They are landing in one minute! Clear! Clear! Everyone out of the runway!" he exclaimed. "They are dropping off two owls and 40 eggs! We'll have to build a nest with a wall, so the eggs don't break!"

Building Community and Home-School Connections

The children were fascinated to learn how many varieties of owls there are in the U.S. After teachers read books about owls, children acted out the stories during story time and free play. They



were seen sitting on pretend eggs, creating nests, flying through the yard, and singing owl songs. During the six-week project, children developed a sense of community while playing together to find answers to their questions and determine how to express their ideas.

In addition to building community within the classroom, our owl project sparked a strong home-school connection as children shared the experience with their families. For example, Juliette made an owl puppet with bark she found at her brother's school. Frances showed her friends an owl pamphlet, proud to share her owl knowledge with them. Eva and her mom led owl collage-making with the other children, and they decided to hang the collages near the owl box to attract the birds back to the yard.

Our deep dive into owls also enhanced literacy. Eva, for one, was very interested in exploring how to say "owl" in different languages. She made a guide with her parents on how the word is written in Spanish, Slovenian (her home language), and English. She sat at the greeter table and interviewed parents as they arrived to add more languages to her guide. She continued to add to her list when two visitors paused their tour to look at the classroom documentation board. Eva asked, "What language do you speak? How do you say 'owl' in Portuguese?"

The children's emerging literacy skills were further enhanced by sharing their theories about owl life, organizing their thoughts and using owl vocabulary, such as "pellet," "nocturnal," "preda-

tor," "wingspan," and "dissecting." They strengthened their numeracy and spatial reasoning skills by predicting how many eggs were in a nest and how long they would take to hatch, and by playing owl scavenger hunt and matching games.

At the same time that the classroom was learning about owls, a Eurasian eagle-owl named Flaco escaped from New York's Central Park Zoo. Teachers shared the information with parents, so they could talk about it with their children who wanted to find out more about Flaco and his ability to survive in Manhattan.

Owl Experts Share Their Knowledge

We invited owl experts from the Palo Alto Junior Museum & Zoo to share their knowledge with our curious community of learners. The visitors brought in owl skulls, talons, and feathers, and the children confidently shared their ideas about owls with the experts. We learned that great horned owls are powerful predators that hunt small mam-



mals, birds, and reptiles using their keen sight and silent flight. They can turn their heads almost all the way around, which is something we humans cannot do. Children were absorbed in this presentation, so much so that they tried to see how far they could rotate their heads. We learned about owls' incredible hearing and how their ears are just holes in their skulls. Children compared the feathers of other birds with owl feathers and noticed how the design of owl feathers enables them to fly very quietly.

As Jordyn said, "So they can catch their food like a surprise!"

Children had a rich discussion with the visiting experts and asked many questions, including, "Do owls lay eggs?" "How long does it take for the eggs to hatch?" "Do owls like rain?"

When Aiden asked, "Why were they awake in the morning?" we learned that while great horned owls are typically nocturnal, they may be active during the day, especially when raising their young.

Our children were fortunate to explore these magnificent creatures up close in a meaningful way, learning about their unique behavior, hunting skills, and the challenges they face in the wild. Teachers observed the children cultivating a positive learning disposition and building a sense of confidence and ownership over their educational journey. The awe and excitement of spotting these great horned owls in our classroom yard was a rich experience not just for the children, who came to view themselves as owl experts, but for their families and our visitors as well.

Best of all, after several weeks of no owl sightings, teacher Mia discovered fresh owl pellets under the redwood tree. The finding was reported in the classroom newspaper, and it revived the children's interest in searching for owls and continuing their learning adventure.

"They like our yard," Jordyn said. "They will stay." **B**

A Journey Into the World of Wings

By Nandini Bhattacharjya, Head Teacher, and Betsy Koning, Teacher

As the children returned to school in the new year, we heard them saying things like “How can I make wings?” and “I want to make butterfly wings.” We had observed the children’s fascination with wings before winter break, so we set out a variety of art materials from which they could make wings and watched as they “flew” out into the yard as butterflies, birds, and dragons. Their desire to make costumes and props related to flight and flying creatures inspired the teachers, who followed the children’s interests to embark on a class project on the topic of wings.

To encourage the pretend play centered on wing themes, teachers made several cardboard stencils in the shape of different animals’ wings. The children used these and large sheets of paper to draw and cut out wings that could be taped to their backs. Each morning, our yard was filled with children soaring, fluttering, hovering, and zooming as they acted out the behaviors of their favorite winged creatures.

As a first step to investigate which aspects of wings and flight would be most meaningful to the children, we explored the many types of wings found in nature and their individual shapes, sizes, and functions. We created a science and discovery table to introduce a variety of flying creatures that might capture the children’s interest. Some animals, like birds, engage in true flight by flapping their wings while others, like flying squirrels or flying fish, jump and use the folds in their skin, flippers, fins, and legs to glide through the air. The table had a sorting game to help differentiate between flying and gliding creatures and several small plastic models of the flying animals. We were excited to see children looking carefully



at the flying creatures, and we listened as they described the various wing types:

“The flying squirrel has square wings with paws in the four corners.”
“The butterfly has wings like a heart.”
“Ladybugs have half-circle wings with lots of dots. I like the dots.”

They were starting to think about the differences and similarities between the wings of animals.

The collection of figures on the science table was so popular that it became apparent that we needed more to accommodate everyone who was interested in using them. Over the next few weeks, the teachers provided opportunities for children to make their own models. On the patio, children were given opportunities at the woodworking table to attach paper bat, butterfly, dragonfly, and ladybug wings to their projects. They could also use cardboard, craft sticks, and brads (brass fasteners) to give their animal creations wings and other appendages that were moveable and could flap or unfurl. Some children made multiples of the same animals, creating families and flocks. Others made animals that could have a predator and prey relationship or created a variety of animals that turned into a zoo-like collection. Some of the children went on to draw or make habitats for their animals from design materials. As they worked on their creations, we heard comments like:

“These are hunter bat wings. They are very strong. They are strong because they have things



[ridges where the bones are visible] on them.” —Jack
“I am making a flying fish. They don’t have wings; they have fins.”
—Henry
“I am making a ladybug.” —Neil H.
“I am making a ladybug too. They have four wings. I also made a flying squid; they have fins.”
—Alejandro

The children’s interest in wings had been sparked serendipitously. One rainy morning in the sand area, we found a wet dragonfly. After we carefully rescued it from the soggy ground, the children discovered the insect could not move its wings. Most of them concluded that its wings were broken, but as the morning progressed, they saw the dragonfly start to move its wings. This fascinated the children, and they slowly realized that its wings were wet because of the rain, and that’s why it was unable to fly. As they kept a close eye on the dragonfly, it started to move its wings, and we heard overjoyed voices call, “It’s whirring! It’s whirring! It’s going to fly!” However, even though its wings were moving, it still could not fly. The children were once again convinced its wings were broken. Teacher Elena, who had been reading to the children about dragonflies, knew that being up on a perch would encourage it to take flight and offered this suggestion to the children. They made a perch for the dragonfly on a leaf, and just as we were about to come in for story time, the dragonfly flew

into the sky. The children watched joyously and, as they came in for story time, we heard voices saying, “It took him a long time to dry his wings.” It always amazes us how much children can learn when they are given an opportunity to observe nature.

Another day, Deven found a dead honeybee in the yard. After showing it to many of the teachers and children, he and some peers brought it inside to the language table. He wanted to measure its wingspan and see if it was the same size as what we’d seen in photos from *Horsefly and Honeybee* by Randy Cecil, the book we’d been reading all week during story time. Deven added this to the class’s daily newspaper: “I found a bee. I think it’s a honeybee. It has stripes like a honeybee. I measured its wingspan, and it was very small. It’s dead. We can touch it because it’s dead, and it won’t even sting you because it doesn’t have a stinger.”

The following day, we put the bee under a microscope to allow children a closer view. Here is a sampling of their responses when asked to describe what they saw:

“I see the wing. The wings look bent down.” —Oak
 “I see a bee under there. Hi bee! Why it came inside?” —Gavin
 “I see like little lines on the bee’s wing. I can still see the lines when I don’t look through the micro-



scope. I see hairs. They’re super little.” —Luma
 “I see a huge wing. I just see a wing with stripes on it, no, with lines on it.” —Liam
 “I think I see wings. Juju, you take a look, what do you see in there?” —Ajuni
 “There’s pokey things on them. Just like cactuses.” —Juju

Each week at story time, the teachers selected a book that would introduce the children to a type of wing found in nature and encouraged them to think about the way those wings work. *Glasswings: A Butterfly’s Story* by Elisa Kleven gave the children a chance to learn about a new type of insect and to think about the many butterflies they were already familiar with. *Mel Fell* by Corey R. Tabor, a story about a kingfisher bird, introduced them to a set of wings that seemed to work in the air and

under water. *Flight School* by Lita Judge showed us that not all wings—like those on a penguin or ostrich—are meant for flying. Reading *Stellaluna* by Janell Cannon presented us with information about the mystifying life of bats. Children wanted to pretend to be these exciting nocturnal creatures and make wearable vampire, fruit, and flying fox bat wings. Some even moved through the yard acting like *Stellaluna*, an epauletted fruit bat, looking for fruit that they found on our orange tree.

Seeing their deep interest in this unusual creature, we played the song “Bats” by Bari Koral at music time, which gave children a chance to act out other bat behaviors. Children used scarves as bat wings and pretended to hang upside down to sleep. The teachers encouraged them to transform into different types of bats, from the tiny bumblebee bat to the flying fox, the largest bat in the world.

As we talked more about bats, questions came up as to the size of each type. We took this opportunity to introduce the concept of wingspan to the children. Using a large ruler, we had them measure life-size photos of bats. Then we measured children’s “wingspans” from fingertip to fingertip, which they found exciting and facilitated their understanding of the word. We also started to look at the size differences between all the animals the children were interested in, from butterflies to penguins and more. Having a measuring tape and a series of life-size animal photos near our documentation board allowed individual opportunities to revisit this activity.

In the art area, we studied the symmetry in butterfly wings and gave children an opportunity to create a symmetrical painting by folding a piece of paper in half while the paint was still wet. During this activity, we heard from Sami’s mother that the wing project had spread to her home as well, and she sent us a photo of several sets of paper wings. When





their wings to swim under the water instead of flying in the air. This prompted the question, “Why can’t some birds, like penguins and ostriches, fly?” The children had several theories: Teddy said, “Ostriches’ bodies are too big. It’s so big that their wings can’t lift them up.” “Penguin wings don’t flap like a flying bird,” said Maya. “Ostriches walk and run.”

asked about the process she used to make them, Sami said, “I made butterfly wings by tracing my hands.” She then colored the wing-like shapes and cut them out.

Wings inspired other instances of parent participation in the classroom. For example, Roman’s dad came to story time to share his up-close and personal encounters with penguins in Antarctica. The children had many questions for him and learned that penguins use

Maggie suggested we could help the birds get more flight-ready: “Maybe we need some tape and paper wings and attach it to the ostrich.” This seemed reasonable, considering that was what the children had been doing throughout the quarter—making wings to fly out into the yard as owls, pterodactyls, bats, butterflies, and many other winged animals.

Another parent joined us to share her first-hand bird experience, which is such

a significant part of learning for young children. Vivian’s mother and the family’s new baby chicks visited our classroom as a type of culminating experience. This allowed the children to see wings up close and to gain insights into why some animals can’t fly even when they have wings.

Through our exploration of wings, a topic based on the children’s interests, we saw them expand their play themes with new shared knowledge, form a stronger sense of community, and build skills across all areas of development. In our approach to this project, we were guided by the advice of Lilian Katz, a pioneer in early childhood education. “Provide lots of opportunities for children’s natural curiosity to manifest itself,” Katz wrote. “With very young children, our role is one of supporter and guide.” **B**

Please take a look at our classroom newsletter on the project: <https://bit.ly/WAM-Wings>.

Honoring a Diversity of Languages in West PM

By Angela Aquilizan and Marisa Chin-Calubaquib, Teachers

“Language is a fundamental part of cultural identity.” —Louise Derman-Sparks, educator and author

Did you know that Bing Nursery School has a voluntary dual-language learning group? Composed of teachers, the group meets monthly to discuss and reflect upon the changing demographics of classrooms and best practices for celebrating and supporting dual-language learners. Thanks to this group, established in the fall of 2022, we have introduced and integrated multiple strategies and techniques for honoring children’s home languages and highlighting the rich diversity of languages present in our community.

Based on the information we gather during intake conferences in the fall with

Bing families, we discovered there are 15 different home languages in the West PM class that the children are exposed to. This discovery motivated us to identify strategies for honoring the rich diversity in our class. One approach we have used this year is integrating multiple languages while singing songs that include commonly used words. Teachers generally begin this process by writing the song’s lyrics or printing them out, and then translating a few of the key words into some of the languages present in the class (Spanish, Tagalog, French, and Italian are among those spoken by teachers). Next, we invite the children and their



A parent translating a friendship song into Tibetan.

families to assist us with translations both in the script of their home language and phonetically. Some of the songs we’ve sung in multiple languages include “Hello Friends,” “Friends 1,2,3,” and “Itsy Bitsy Spider.” Families were eager to share the words in their languages, and the children were sometimes more invested in singing when their language was featured and truly lit up upon hearing a familiar song in the speech used at home. Monolingual children benefited



Above left: A child-initiated poll to determine what the mystery fruit might be. Above right: A bilingual child browsing *First Thousand Words in French* in the classroom library.

from being exposed to other languages, and quickly picked up on familiar words. Some of the languages that the class heard this year include Spanish, Farsi, Mandarin, Cantonese, Taiwanese, Tibetan, Greek, Italian, French, Korean, Tagalog, Hebrew, and more.

Another practice that we already use, but that became more intentional, was the use of props and visual aids to support dual-language learners during story time. Offering concrete representations for children to identify with and connect to when learning new vocabulary helps them remember and recall these new words, especially if the child is a visual learner. Some such aids that have been used in our class are felt pieces, laminated illustrations, stuffed animals, and dolls. Teachers also engaged the children with sign language and gestures, again giving children something concrete to associate with the words being spoken or sung.

As part of her research into supporting dual-language learners, Angela came across the use of persona dolls—a strategy adapted from Trisha Whitney’s book, *Kids Like Us*, and the work of Louise Derman-Sparks, Debbie LeeKeenan, and John Nimmo, advocates for anti-bias education in early childhood. According to Whitney, persona dolls are distinct from puppets and other props because they carry personal and social identities children can relate to or learn from. “Juanito” and “Juanita,” our persona dolls in West PM, are bilingual siblings (they speak English and Spanish) and

the same ages as the children in our class. In using these persona dolls, we aim to create affirming *mirrors*, *windows*, and *sliding glass doors*—guided by the groundbreaking work of Dr. Rudine Sims Bishop, known for her research on multiculturalism and children’s literature. The persona dolls serve as mirrors as the children notice similarities between their own identities and those of the dolls. They serve as windows and sliding glass doors as the children are introduced to and experience the different cultures and languages through conversations, games, music, and dances with the dolls. One of the songs the children sang and danced to with our persona dolls is called “Juanito Cuando Baila (Juanito When He Dances),” by José-Luiz Orozco.

In addition to these strategies and materials, we have used anchor texts in the classroom to introduce new vocabulary words in English and in other languages that are relevant to the children’s lives. As Elizabeth Magruder, an early learning expert, and her colleagues explained, “An anchor text is an intentionally selected book used repeatedly to foster vocabulary and concept development.” These anchor texts are the books we read at story time and return to repeatedly throughout the week.

In West PM, one of our anchor texts was *Frederick* by Leo Lionni. We learned a number of new vocabulary words in English, such granary, supplies, and poet. And because Frederick is a mouse, it sparked our interest in learning how to say that word in different languages. The

children began to teach each other how to say “mouse” in their home language, and we documented the various translations on paper so we could revisit the words. As our list of words grew, we decided to incorporate our newly acquired vocabulary into rhymes and songs. For example, the children gathered around the table and sang “Hickory Dickory Dock,” supplying the word “mouse” in different languages (such as Farsi):

Hickory Dickory Dock
The *moosh* went up the clock
The clock struck one
The *moosh* went down
Hickory Dickory Dock!

Adopting these strategies to support dual-language learners became second nature to the teachers and children in West PM. By the end of the school year, families were offering us translations of new vocabulary or significant words without the teachers even having to ask. For instance, one of the children has four loquat trees at home and brought a bag of this exotic fruit to share with the class. Some children were eager to try something new, while others recognized the fruit and were excited to have it again. During drop-off, a caregiver noticed the fruit and shared that it’s called *nispero* in Spanish while another child was quick to identify the fruit in Korean: *Pi Pā*. From that organic start, we continued to have more contributions in multiple languages and discovered that loquats are not prevalent in all countries and therefore might not have a designated word in some languages. We’ve also observed the children initiating conversations to learn more about one another’s home language. As one curious 3-year-old asked during snack time, “How do you say ‘milk’ in Farsi?”

The children have taken so much pride and joy in becoming experts of their home language and being able to share an integral part of themselves with others. We look forward to continuing to use these and other techniques for supporting all the children in their language journeys. **B**

The Design Table: A Space That Encourages Problem-Solving Through Creative Thinking

By Nancy Verdtzabella, Head Teacher

We value children's ability to learn and solve problems through their creative expertise. The design areas at Bing Nursery School are intentional, carefully organized spaces dedicated to the exploration of ideas. Children have access to a generous supply of open-ended resources to support their thinking. By manipulating materials, children's visual interpretations of their ideas come to life.

At Bing, we purposefully set up the environment in a way that inspires our young learners to independently seek and learn what is meaningful to them. A beautiful and inviting learning environment, one that includes an array of intentional and engaging activities for the children to choose from, helps foster a love of learning. One such environment in West PM is the design table. The space is a popular gathering spot for the children to design props that support their play. We also see this space as a platform for solving their everyday, real-life problems.

In 2009, the Bing staff, myself included, attended a daylong workshop at Stanford's Hasso Plattner Institute of Design, also known as the Stanford d.school. We were reminded of the value of solving problems by thinking outside the box—something children tend to do without prompts from adults. As a school, we enjoy a rich history of dedicating learning spaces to develop creative minds. Further reflection inspired Nancy Howe, a design enthusiast and head teacher at the time, to suggest renaming what had been our maker space the "design table." The new name spotlighted the important work children were engaged with and accomplishing there. Fifteen years later, children continue to use the space to find creative solutions to their problems by manipulating materials and creating prototypes that bring their ideas to life.

The area is arranged in a way that encourages child-led ideas. A provocation, which is a setup that invites exploration and experimentation, consists of recycled materials plus crayons, pencils, scissors, and tape. It is beautifully displayed on the table and nearby shelves to entice curiosity. Children come and go independently. There is never a day when the area remains untouched.

Children are constantly thinking of visual ways to represent their ideas. They often stay for prolonged periods of time at the design table, making iterations of props they use in their play scenarios. Children's creative and imaginative minds are at work as they see and use the open-ended materials in ways that most adults would never imagine using themselves. Children's innovative approaches to using open-ended materials to work out solutions to their problems are remarkable. Here are just three examples of children's creative processes and innovations.

Minna and the Bug Jars

When Minna realized that all the class bug jars were being used by other children, she decided to stop at the design table to make her own. She looked at the assorted materials and chose two plastic spice flip-top bottle caps. She taped



them together to make a container and then ran outside in search of a worm. When

she found one, she flipped open one of the bottle caps' lids and placed the worm inside with a blade of grass and closed the lid. "There!" she said. At the end of the day, she opened the lid and returned the worm to its natural habitat. Arriving to school the next day, Minna made slight variations to her bug jar design. "This one is bigger, for two worms," she explained. "I don't want the worms to be crowded." This caught the attention of peers who also decided to make their own versions of bug receptacles. These bug jars became more popular than the store-bought ones!

What's Your ETA?

One day in the Back 40 outdoor area, Rafaela scanned the yard in search of her friends. Realizing they had not yet arrived, she ran to the outdoor design table and began to cut cardboard pieces with scissors. Cutting the cardboard took great effort; nonetheless, she was determined to cut two pieces that were similar in size. "I need it to be the same exact size! I am making something important!" she announced. Rafaela drew small, pink squares on one of the cardboard pieces and taped the short edges together, so that they opened and closed like a book. She flipped open her prop and put it to her ear, then closed it immediately. Next,



the yard. He brought it to the design table and got to work. Twenty minutes later, he was heading back outside when I commented, “B, you made a new fishing pole prototype. I remember when you made a fishing pole several weeks ago.” “Yes, I made another fishing pole! This one is much stronger and better.” B raised the fishing pole up high for all to see. “Oh, look, I even made another fish! This one might be easier to catch too!” B chuckled as he walked outdoors with a grin on his face.

she climbed to the top of the climbing structure and scanned the yard. Still no sign of her friends. She began to tap her fingers rapidly on the pink squares. “I made a phone,” she said to me. “Who are you calling?” I asked. “It is not a phone call. I made this phone for texting. I am up here texting because I have been waiting for so long for my friends to get here! I’m sending them a text, so they can let me know when they will get here.”

Gone Fishing

Children gathered around the design table in the Back 40. Teddy, who had been making open-ended designs with a blue colored pencil, noticed he’d unintentionally drawn a figure that seemed to surprise him. “Hey! I made a fish! I made a fish!” he exclaimed as he held it up for all to see. B looked at the fish moving Teddy was waving through the air and said, “I want to catch them. The fish. Let’s go fishing!”

This prompted children to design their own fish and to make fishing poles. The children searched through the art cart and found paper, string, craft sticks, fallen twigs, masking tape, clear tape, and pipe cleaners. They went to work making a number of fishing pole prototypes, testing and retesting them. When a design needed fine-tuning, the children demonstrated resiliency by making changes to their fishing poles and fish so that they could “get a bite.” As Alex fished in the “pond,” created by the children out of four long outdoor blocks, he could not get his fish to bite. He returned to the design table and added tape to the end of the fishing pole string. After several attempts, he decided to add tape to the mouth of his fish. This time he got a bite. “Look, a fish!” he declared. “I also caught a fish,” said B. “Mine worked too!” said Teddy and Addie.

Several weeks later, B walked into the classroom with a stick he’d found in

These are just some of the many instances that reveal children’s thinking and problem-solving abilities. Although supporting creativity and problem-solving skills are at the core of the design table, there is so much more this learning space offers children. As highlighted in the examples above, it is also a place to work alone or collaborate with peers, to appreciate the value of recycled materials, to devote uninterrupted time to refining prototypes, to persevere when setbacks arise, and to demonstrate resiliency. Children often cheer for each other when a problem they are working on is resolved at the design table. They feel empowered and eagerly return the next day for more creative work. It is a treasured space where children’s imaginations run free and visual interpretations of their ideas come to life. **B**

It’s a Small World: Dramatic Play on a Miniature Scale

By Kay Erikson and Jessica Predom, Teachers

Asher stood in front of the discovery table, where an enchanting woodland scene with miniature forest animals, rocks, log blocks, trees, and a stream made out of a blue silk scarf had been set up by the East Room teachers. Holding a small rock, he said, “Let’s pretend it’s their time for a nap.” Pointing across the table, Cora added, “They nap here.” “No, they nap

in their little house,” Asher counters. Nodding in agreement, Cora said, “Oh, yeah.” Collecting the various rocks on the table and placing them in a small edifice they constructed from log blocks, Asher said, “This is the mom, so she’ll need to take a nap. She’s just laying down watching TV all day!” The two children burst into laughter as the play continued.

In each Bing Nursery School classroom, the discovery table serves as an invitation to play. Facing the greater table, this space is one of the first things children notice when they enter the room. In the past, the discovery table has offered rotating investigations such as pumpkin weighing, exploring magnets, or sensory exploration. This year, in East Room, we were curious to see what types of play



experiences would develop at the discovery table if we offered an ongoing opportunity to engage with a “small world.” Would we see new children exploring the materials if we continued the theme throughout the year, and in what ways would the materials sustain their interest?

It was with these questions in mind that the teachers began to plan the curriculum. Each quarter we carefully curated the materials and designed an enticing dramatic play environment. In the fall, we offered woodland animals, such as wolves, bears, foxes, and deer, a cascading waterfall, campfire, small trees, redwood logs, and rocks. In the winter quarter, the table was adorned with penguins, polar bears, and seals, along with ice chunks, sparkling snow, and a mirror that looked like a frozen pond. Come spring, a fairy house appeared, with fairies, flowers, ladybugs, ducks on the pond, rocks, and soft wooden stumps.

As we curated the materials, we were inspired by a long tradition of nature or seasonal tables found at Waldorf schools, which are known for cultivating children’s creativity and imagination. Nature tables celebrate the changes that take place in the natural world by representing them indoors. By dedicating an area in the classroom to the changing seasons, Waldorf schools encourage young children to become more aware of the world around them and to connect with the cycles of nature. These tables are also a springboard to symbolic or imagi-



nary play that supports children’s learning across domains. For example, in the spring, we added ladybugs with different numbered dots on their backs, which supported math play. Providing rocks and shells supported science discovery.

At Bing, imaginary play takes center stage as a result of intentionally locating the dramatic play area in the middle of each classroom. By turning the discovery table into a seasonal play scene in East Room, we hoped to extend this practice by making space for small-world play in a way that is often overlooked in early childhood classrooms. In symbolic play or pretend play, children’s imaginations take flight while they develop language and social skills. “Research provides more and more evidence of the positive effects that well-developed play has on child development, such as children’s social skills, emerging mathematical ability, mastery of early literacy concepts and self-regulation,” according to early education scholars Deborah Leong and Elena Bodrova.

Holding a small wooden boat with two bear figures inside, Aria told her sister Aila, “The rescue boat came and saved the baby bear.” Pointing to a flat log piece, she expanded on the playscript: “And they also eat here so the baby bear can eat also.” They continued to manipulate the small forest animals while narrating their stories among the intricate log structures they had designed. Feeding the animals proved

to be a persistent playscript when, months later, Madison and Emilie were inspired to feed the polar bears.

Throughout the year, we noticed that the discovery table continued to foster children’s imaginary play in a way that was collaborative and deeply engaging. Incorporating open-ended materials into the seasonal scenes afforded children the opportunity to expand their imaginations in unique ways. Cora and Asher, for example, decided to use rocks as people in their story. Later, when building a house for their family, they used logs as tools to hammer and saw their habitat. As evidenced during cleanup time, many children stacked and arranged the materials in extremely inventive ways. Plastic ice cubes and felt snowballs became essential visual design elements when fashioning a bed for the arctic animals. On another day, children even incorporated the book stand into their play.

Small-world play, unlike “big-prop” play, affords children the opportunity to engage in active learning on a scale they can easily manipulate. Children become storytellers as they master the miniature landscape that offers unlimited possibilities to spark their imaginations. Big-prop play tends to be more abstract and more reliant on shared experiences for the activity to continue. Small-world play provides a physical scaffold that makes exploring the “unknowns” of dramatic play more approachable and less intimidating. Small-world play also creates a quiet, familiar nook for players to expand on their schema within the consistency of the materials. Regardless of age, gender, or experience level, small-world play opens a space for all children, welcoming them as they explore and hone their unique approach to play. **B**

Stanford Students in the Bing Classroom

By Adrienne Lomangino, Head Teacher and Pedagogical Specialist

The mission of Bing Nursery School, broadly speaking, is to promote understanding of child development and improve the lives of young children. An integral part of this mission is to serve as a site for teaching and supporting undergraduate students interested in learning about early education and young children's social, emotional, and intellectual development. Bing staff have taught psychology classes and human biology to Stanford undergraduates, and the school also welcomes federally funded work-study students. The students who take classes, like Psych 147: Development in Early Childhood, deepen their understanding of how to support young children's development while also serving as valued contributors to the classroom community.

As a Stanford sophomore, Matthew Treviño, '24, was the first work-study student to return to Bing after the pandemic closure. He was already working in a biology lab and had a science-focused course load, but working at Bing enabled him to explore future career interests, while enjoying experiences that contrasted with the stresses and scientific rigor of the lab and related coursework. "I thought it would fit well into my career trajectory in terms of medicine," he said, "to both interact with children and see whether it's a field that I would have interest in, whether it's pediatrics or anything dealing with children." Matthew was drawn to Bing for other reasons as well: "After initially joining, I think just the joy." He explained, "A lot of my Stanford work was very biology-heavy and very STEM-heavy, and the positive interactions on a daily basis were a great kind of pick-me-up."

During his two years at Bing, Matthew worked as an aide for an individual child and as a student teacher for an entire group, first in East Room and then in the Friday Twos class. Since



the Friday Twos class only met once a week, he could be present for each of their classes. He enjoyed forming a close connection with an individual child and the chance to have "special interactions" with a wider group of children.

As a freshman, Matthew began working on a project in the biology lab with Dr. Naima Sharaf. The project has focused on identifying characteristics of a specific protein in bacterial membranes by using X-ray crystallography. After devoting three years to the project, he is looking forward to publishing their findings.

As a Gates Scholarship recipient, Matthew participated in leadership conferences for the Hispanic Scholarship Fund throughout his time at Stanford. These conferences, organized by the Bill and Melinda Gates Foundation, introduced him to students on a "similar trajectory" and furthered his interests in health care and related fields.

Beyond his career aspirations, Matthew believes his time at Bing has better prepared him to be a parent someday. "It's taken me some time to kind of warm up," he says of being with young children, "and then they also get to warm up." Interacting with the children has fostered "a softer side of myself that I've been able to bring out a little bit more, and I think it will serve me well when I have a child of my own." Matthew's other takeaway from being at

Bing? "Although there are milestones, each child is on their own trajectory."

Michael Peters, '24, arrived at Bing not through work-study but by enrolling in Stanford courses. As a human biology major, he first took Human Biology 4Y, which focuses on observation of children. Next, Michael explains, "I got the opportunity to take Psych 147 [Development in Early Childhood] here, to really focus on the beginning portion of development, and just fell in love with it." After completing those courses, he wanted to continue working at Bing and was hired as a teaching assistant, starting in the Twos classroom, and then in East AM.

Reflecting on his experiences, Michael noted, "I love seeing the growth in the development and seeing how patterns of learning really occur from a young age. Children think so differently than the way that we do. Seeing that directly in front of me helps me be more creative and alters my thinking a little bit." Bing provided a valuable crucible for shaping his perspectives on children. "Even in Twos, I found myself super impressed. I was like, 'I've never known that children this young can do these sorts of tasks.'"

Michael also worked in a lab within the Office of Community Engagement at Stanford Medicine. The office, he says, operates as a bridge between Stanford Medicine and local communities with the aim of conducting research targeted at needs identified by the communities it is intended to serve. The word "community" has particular importance for Michael. "What I am really interested in at Stanford is helping build community, and I feel like Bing is a part of that. It's helping build the new generation of the Stanford community in a lot of ways."

After graduating, Michael moved to Atlanta, where he is pursuing a master's

degree at Emory University in behavioral health education and social sciences and earning a certificate in epidemiology and maternal and child health.

Michael has a clear sense of how his experiences at Bing will continue to shape his future as a clinician: “You can’t just say there’s a one-size-fits-all way to teach a child. You also can’t say there’s a one-size-fits-all way to *interact* with a child. Some children might not want to talk, and other children might be talking all the time. You have to find different ways to connect with the child and let them know that they’re in a safe space and can be comfortable around you. ...



Each child is definitely a different case. There’s such a need for people who aren’t just textbook smart, who actually tune in to every single person, every single patient they talk to. And so, what I’m hoping to bring into the health care sphere is knowing how to interact with a plethora of different people, a

cluster of different age groups, and—if I’m working with children—being able to address their needs individually instead of going based on the textbook answer.”

Bing’s bond with Stanford students is not built because they intend to become early childhood educators. Rather, it develops as a result of their joining our community, for one semester or a couple of years, and then following paths, both personal and professional, that will positively impact the lives of children. Matthew and Michael are just two examples of the rich learning and relationships that grow in our classrooms—and we look forward to nurturing many more students in the years to come. **B**

STAFF DEVELOPMENT

Fall Staff Development Day: Children’s Communication and Musical Exploration

By Mischa Rosenberg, Teacher

On October 9, 2023, Bing Nursery School staff gathered in Tower House for Fall Staff Development Day. Following a lively session exploring children’s imaginations with Bing’s Emma Vallarino and Adrienne Lomangino [see page 30 for article], the day featured a research presentation about how noisy environments affect children’s communication and a high-spirited introduction to the ukulele with Bing’s music specialist, Leslie Hart.

Hart led an informal session with Bing staff on the ukulele and a song swap. She shared her collection of “ukes” with teachers, inviting them to pluck, strum, and learn at their own pace throughout the school year. For many staff members, this was their first time trying the diminutive, stringed instrument, while those with more experience shared their own songs and techniques. Together, they practiced a handful of favorite classroom songs, including “The Bear Missed the Train.” The sound-rich and laughter-

filled session was a joyful and informative way to deepen and expand Bing’s in-class musical exploration. Hart promised there would be more opportunities for musical growth by initiating a weekly drop-in lunchtime ukulele gathering. [See page 38 for an interview with Hart.]

The featured presentation on the impact of noise on communication was delivered by Aaron Chuey, a fifth-year doctoral student working under Hyowon Gweon, an associate professor in Stanford’s psychology department. As part of his research, Chuey asked: How do children communicate when it’s noisy? He noticed that adults change how they communicate depending on the noise level—speaking louder in noisy settings and using physical gestures when it’s especially hard to hear. While this may seem an obvious and automatic response to adults, adjusting how we communicate in noisy settings requires an understanding of others’ perceptual access: What can someone else perceive, and how

can I efficiently transmit information to them? Chuey was curious to learn how this understanding develops, and if it is already present in early childhood.

In a study he designed, researchers asked children to teach how a complicated toy worked to “Gus,” a large mouse doll. In one condition, Gus wore headphones that played loud music—Van Halen, specifically. The volume was loud enough to hear through the headphones, making the environment quite loud for Gus but not for the



By Ariella V., 4 years 3 months

children themselves. In a second condition, the headphones were silent.

Chuey found that children were more likely to use verbal explanations in the second condition, when it was quiet. However, when the headphones were noisy, the children talked less and were more likely to demonstrate the toy to Gus, relying on Gus' vision rather than his hearing. Thus, children in the study adapted how they spoke based on Gus' auditory experience. When it was easy to hear, they talked more. But when it was noisy, they found other ways, like pointing or demonstrating, to get their message across.

Chuey's research also suggests that where children are raised might affect how they communicate. For instance,

children who grow up in noisy environments might naturally talk louder or rely more heavily on gestures. Interestingly, some children tried to turn down the volume on Gus' headphones or wait for the music to stop playing before they attempted to teach him about the toy.

In the future, Chuey wants to delve deeper. He plans to see how environmental noise outside of the headphones—perceived as audible to both the children and Gus—affects how children explain the toy. He also wants to study situations where Gus can't see well, to understand how communication changes when vision—rather than hearing—is limited.

Chuey's work connects with other research, including that of Rondeline Williams, a fellow PhD student in the

psychology department, on how noise affects language learning, including among deaf children with cochlear implants. Together, these studies aim to give us a clearer picture of how our surroundings shape the way we communicate and understand each other.

Moreover, Chuey's research shows that communication isn't just about words. It's about adapting to the sounds around us, especially for children trying to communicate in a noisy world.

The staff development day offered ample chances to connect with each other, reflect on new research and our educational practice, and actively learn through hands-on exercises. Staff members left with new seeds to continue growing our strong community together. **B**

Exploring the Imagination on Staff Development Day: A Reflection on the Importance of Imagination in the Lives of Children

By Emma Vallarino, Head Teacher and Manager of the Kordestani Family Program for Parents and Educators

Imagination is often thought of as wistful and carefree, the stuff of daydreams or child's play or perhaps as a necessary precursor to creativity. What is often not known about the imagination is that it underpins much of our thinking and learning.

This was the focus of the first half of Bing Nursery School's staff development day on October 9, 2023. Emma Vallarino, manager of the Kordestani Family Program for Parents and Educators, and Adrienne Lomangino, Bing head teacher and pedagogical specialist, hosted the morning session with the nursery school staff. The content from the morning was

drawn from a three-day session Lomangino and Vallarino hosted for early childhood educators in July 2023 as part of the Bing Educator Summer Session.

The morning began with an icebreaker exercise to immerse the staff in an "imagination mindset." The session was called "Remember When..." and prompted the staff to approach one another and start a conversation based on a pretend memory. "Remember when we..." were the opening lines of each conversation, with staff members weaving elaborate and creative pretend memories. One group had a run-in with pirates and saved the day by creating sails out of old petticoats. One teacher used the same pretend memory with different individuals to see how the story changed each time. This activity sparked many laughs and fostered an openness to play with ideas and other people. Its ultimate goal? To unlock an imagination mindset.

Lomangino and Vallarino then engaged the staff in a creative activity to elicit similes and metaphors for children's imaginations. Using small booklets, called zines, teachers were prompted to conceive of children's imaginations in their own metaphorical way. Teachers described children's imaginations "like a garden," "as plentiful as the celestial sky," and "like a rainbow reflecting through falling rain." These similes opened our imaginations to new ways of seeing the power of children's imaginations. The next step was to work to create metaphors for a child's imagination, and the staff's responses included "the ocean: life, depth, vastness," "books with endless pages," "a Crayola box of 120 colors," and "a bird's flight." These powerful images allowed us to consider the beauty, bounty, and importance of children's imaginations while grounding us in our appreciation for our work as early childhood educators that nurtures this precious gift.



Car. By Daniyar S., 3 years 8 months



By Hugh P.-W., 2 years 5 months

The exercise was followed by Lomangino and Vallarino's presentation, "The Imagination Continuum: How Imagination Is the Heart of Thinking." It explored the imagination in depth, with a focus on the work of Lev Vygotsky, a prominent Russian psychologist who wrote, "Imagination is not just an idle mental amusement, not merely an activity without consequence in reality, but rather a function essential to life."

From recognizing the imagination as a basic human competence to delving into how it develops, Lomangino and Vallarino drew on research from archeological data and neuroscience to explain the intricacies of the imagination. They used many classroom examples to share how imagination impacts our lives in many ways, from how we make sense of the world to how we think creatively beyond the bounds of this world. This idea is from Ann Pendleton-Jullian and John Seely-Brown, researchers who see not one "imagination" but many imaginations that exist on a continuum and work in different ways. On the most basic level, our imagination helps us to perceive the world through what

Pendleton-Jullian and Seely-Brown call "mediating frames." The imagination fills in the gaps around what we see based on our personal experiences and culture.

Lomangino shared the example of a puzzle in the Bing classroom that was designed to be a pear. Once, as she was putting away the pieces, a child glanced at the puzzle from a sideways angle and announced, "It's an eagle." From this standpoint, the imagination helps to make sense of the world. Along with perception, the imagination underpins reasoning and speculation in this sense-making way. At the other end of the spectrum is free play imagination. This generative, novelty-filled, and associative kind of thinking is closer to what most people think of as the imagination. It lives not on the sense-making but rather the "sense-breaking" side of the imagination continuum, according to Pendleton-Jullian and

Seely-Brown, and includes experimental imagination and speculative imagination. These varied aspects of our imagination ground our thinking processes, and give young children ample opportunity to play, bolstering their imagination and supporting future learning.

Lomangino and Vallarino wrapped up the session by inviting the group to map their classroom's "imagination hot spots"—those particular areas of the classroom that seem to spark children's imaginations. Once the maps were drawn, the group was asked what makes an area of the classroom a hot spot. What about the environment stimulates the imagination—and which kind of imagination? Where in the classroom might there be room to encourage more imagination?

By placing imagination at the center of the staff development day, Lomangino and Vallarino brought a depth and understanding to a topic that is often overlooked. Imagination is a powerful mental process that underpins children's thinking processes and learning, and it should be supported, prioritized, and celebrated in the classroom. **B**

Winter Staff Development Day: Exploring Math and Dual Language Learning

By Saeih Song, Teacher

"Education is not the learning of facts, but the training of the mind to think."
—Albert Einstein

On February 20, Bing Nursery School teachers gathered for our winter staff development day to explore the enriching world of math in early childhood education. Emma Vallarino, head teacher and manager of the Kordestani Family Program for Parents and Educators, kicked off the day with a compelling presentation on mathematical thinking in the early years.

Vallarino posed a rhetorical question to her fellow teachers: "What does math look like at Bing, and how is it integrated into play?" She went on to explain: "Through the gifts of time and space, Bing children have ample opportunities to think and play." She encouraged teachers to ask questions that foster and expand children's thinking skills.

Introducing the concept of "embodied cognition," Vallarino highlighted how hands-on experiences are crucial at this developmental stage, laying the groundwork for future thinking and learning. She described how

various forms of play—symbolic, manipulative, block, nature, and music—support mathematical thinking.

Vallarino brought up the work of Jo Boaler, a renowned Stanford math education expert, who asserts that visual pathways are vital for mathematical learning. Boaler's insistence that "math is not just about calculations—it's about patterns, space, seeing things differently, and making connections" resonated throughout the presentation.

We discussed using fingers to represent numbers and developing number sense.

As Vallarino explained, “Math thinking means engaging the visual system. By putting on ‘math goggles’—adopting a mindset that allows us to see and think about everyday situations mathematically—we set the stage for children to think mathematically, reflect, and document their learning.”

Teacher Laura Benard followed with an enlightening presentation about the Early Childhood STEM Conference, which was held at the Children’s Center at Caltech in early February. She highlighted innovative strategies from Harmon Oaks Nursery School for integrating mathematics into early childhood curricula. This approach emphasizes the importance of using a creative mindset to enhance number sense and mathematical thinking among preschoolers. Inspired by the practices shared at the conference, Benard emphasized the benefits of starting to count at numbers other than 1 and incorporating physical activities to strengthen number understanding. She suggested using parts of the body for counting, such as fingers or pairs of things like ears and eyes. Additionally, finger plays during music and story time can help reinforce mathematical concepts. These strategies are designed to enrich mathematical engagement and reflect a balanced approach in early education, where math is given equal emphasis alongside language and literacy. [See page 35 for more on the conference’s keynote address.]

Next, teachers worked with their teams to brainstorm a particular math concept, such as addition, subtraction, operations, spatial awareness, measurement,

patterns, data, shapes, and counting. To help spark ideas, teams could make use of an assortment of manipulatives materials, including pattern blocks, colored rocks, and translucent cubes. Discussions centered on how these concepts are embedded in our daily curriculum, and we explored ways to further enhance our classroom practices.

Each team presented their ideas for how to provoke thought and engage children with the math concepts. For instance, Parull Chandra, head teacher in Center AM, shared her team’s insights on data collection. “Data is information we collect to answer questions or solve problems,” Chandra explained. She demonstrated several methods for collecting data, such as graphing, sorting, and categorizing, and shared an intriguing example of a Venn diagram displaying information about frogs and toads. Nandini Bhattacharjya, head teacher in West AM, discussed how Bing teachers integrate measurement into play—in one instance by using shovels in the sand area for a broad-jump game, where children both participated in the game and measured their jumps.

In the afternoon, our focus turned to dual language learners. Nearly 70% of children enrolled at Bing are exposed to a language other than English at home. Chia-wa Yeh, head teacher and research coordinator, organized a dual-language learning reflection group for interested staff in fall 2022 to share strategies to support multilingual children in the classroom. She reiterated Bing’s stance that young children are capable of learning multiple languages, and there is enormous value in preserving

home languages. Yeh highlighted multimodal ways of working with dual-language learners (e.g., using images, body language, gestures, tone of voice, symbols, and icons). She also noted that inviting families into the classroom to share their knowledge is

an excellent way to build home-school connections and an inclusive community, creating a sense of belonging for all. Teacher Marisa Chin-Calubaquib described how home languages are incorporated through song and by welcoming parents and grandparents to participate. Teacher Angela Aquilizan spoke about using persona dolls to engage children in conversations about how we are the same and different to promote diversity and respect. [For more information about Aquilizan and Chin-Calubaquib’s classroom practice, see page 23.]

Program director Beth Wise showed the staff large posters with not only song lyrics but also images she used as a visual aid during her time as a music specialist at Bing. She also shared a touching anecdote to demonstrate how music can serve as a powerful medium: Wise recalled a child who was new to the school and initially only spoke French. Her mother recorded a French song the child liked to sing, and Wise connected with the child through the song and music. The child gradually grew more comfortable and eventually started to acquire more English. This example illustrates the impact of using diverse modalities in teaching, which not only help to lower the affective filters (how one feels) of dual-language learners but also promotes successful language acquisition. Bing’s approach underscores the importance of a supportive, multimodal educational environment that respects and integrates the linguistic diversity of the students.

The winter staff development day proved to be a vibrant platform for sharing, learning, and envisioning new ways to weave mathematical and linguistic insights into our educational practices. Thanks to the day’s full roster of activities and insights, we are inspired to integrate these concepts more deeply into our everyday interactions with the children, fostering an environment where learning is not just taught but lived. Bing’s dedication to a holistic educational approach ensures that our teaching continues to evolve as we strive to meet the diverse needs of every student. **B**

SELF-PORTRAITS



By Henry R., 4 years 7 months



By Minna H., 5 years 5 months

Spring Staff Development Day: Motivation, Diversity, and More!

By Elena Haase Cox, Teacher

At Bing Nursery School’s spring staff development day, the staff gathered to learn about, reflect upon, and discuss topics that are of central importance to our work. We began with a presentation about intrinsic motivation, moved on to a conversation about supporting neurodiverse children in our classrooms, and concluded with a talk by Veronica Boyce, a researcher in Stanford’s Language and Cognition Lab. Throughout the day, staff and presenters shared thoughtful insights, delved into compelling research, and engaged in rich conversation and learning that is sure to inform and expand our work within and for the Bing community.

Adrienne Lomangino, Bing head teacher and pedagogical specialist, opened the day by sharing a presentation titled “Lively Minds at Play: Intrinsic Motivation.” She discussed how young children actively construct their knowledge of the world through their engagement with it; they constantly encounter new situations and experiences, and they are “wired” to navigate and engage with these experiences through play. For children, learning through play is intrinsically motivated; they play because of the inherent satisfaction it brings—and not because of external pressures or the promise of rewards. Intrinsic motivation “is the ideal setting for building knowledge and skills,” according to Lomangino, and this makes play a rich resource for learning. Repeated experiences with playful learning create “lively minds” and help children “become engaged, resilient, lifelong learners.”



By Raslind C., 4 years 9 months

Drawing on research by psychologists Richard Ryan and Edward Deci, Lomangino talked about Self-Determination Theory (SDT), a framework they developed for understanding motivation. Ryan and Deci identified three factors that drive an individual’s sense of motivation and well-being: autonomy (the freedom to make choices), competence (feeling capable in what you are doing), and relatedness (the sense of being cared for and connected to others). While the model was originally created with older learners in mind, we discussed that it seems fundamental to young children’s engagement with learning. With SDT as a reference point, we watched three videos of children’s play at Bing. In a video of children playing on the boat in East Room, we observed *autonomy*, as children confidently expressed the roles they had chosen in the game. In a video of children from Center Room engaging in doctor play, we noticed *competence*, as they navigated the classroom and put materials to novel use with a creative plan in mind. In a video of children painting in the Twos classroom, we observed *relatedness*, as children clearly noticed and thought about what others were doing, shared materials, and replicated one another’s designs.

Next, Bing teachers and staff gathered in small groups for a conversation about how we can best support the neurodivergent children in our classroom communities. Questions were given to each team to guide our discussion, including: “What strengths do neurodivergent children bring?” “What do we already do at Bing to support our neurodiverse community?” “What questions do you have about supporting children?” These prompts sparked meaningful conversations for each classroom team, which were shared with the entire staff when we gathered for a whole-group reflection.

Our work as teachers begins before children enter the classroom. Several teams expressed how important it is to create an environment that is accessible for all of our students and supports diverse learners in getting the most from school. Several teams pointed out that many of the practices built into the Bing philosophy—such as freedom of choice and movement, the gift of time, and the open-endedness of materials—inherently offer the kind of flexibility that is welcoming and inclusive of children with diverse abilities, experiences, and needs. As teachers, our responsibility is to build individual relationships with each child, which means adjusting our approaches and classroom routines to invite full participation. Only by taking the time to truly get to know each child can we understand their strengths and areas of continued learning and offer the support that will serve them best.

Teachers from the different teams conveyed their appreciation for the diverse perspectives that are represented in our classrooms, and highlighted the strengths neurodivergent children bring. We plan to continue this conversation at Bing, advance our learning, and enact practices that best support neurodivergent children, uplifting our community as a whole.

At day’s end, we gathered for a presentation by Veronica Boyce, a fourth-year PhD student in the Language and Cognition Lab. Titled “4- to 5-Year-Old Children Can Successfully Communicate Using Ad-Hoc Referential Expressions,” the research helped to bolster our understanding of how children’s communication skills develop.

Boyce’s study included an “iterated knowledge game,” in which two partners describe abstract images to each other. Researchers previously found that when adults play these games,

the descriptions become shorter over repeated rounds as pairs develop shared references and nicknames for the different pictures. But what about young children? Do they use metaphors and build on repeated references in the same way?

To explore this question, Boyce invited pairs of 4- and 5-year-old children to play a game. For each round, the children were presented with two geometric images of people engaged in different activities. One child's role was to give a clue describing one of the images; the other child had to guess which picture was being referred to. The partners swapped

roles after each round, taking turns being the “describer” and the “guesser.”

Boyce found that the children could successfully convey information about the target image to their partner, with the correct image being guessed 80% of the time. Examples of clues children offered include “someone flying a plane without a cover” and “a man with one foot and a line and a square and a triangle.” The researchers found consistency in children's descriptions of the images, with individual children giving similar clues for the same image across multiple rounds; they also found that children's clues tended to

be more similar to their partner's clues than to the clues given by other pairs of children for the same picture, indicating that children are “influenced by their partner's prior descriptions.” Boyce plans to expand this research to include more children to better understand the differences between how adults and children approach and develop communication.

The spring staff development day was full of reflection, discovery, and conversation. Bing staff dove deep into our current practices, while considering future directions and how we can continue to support learning and growth as a community. **B**

CONFERENCES

NAEYC Annual Conference 2023: Advancing Early Education

By Kelli Agnich, Teacher

The National Association for the Education of Young Children (NAEYC) Annual Conference is a prominent event in the field of early childhood education, gathering educators, practitioners, researchers, and advocates from around the globe to share insights, research findings, and innovative strategies aimed at enhancing the learning and development of young children. The 2023 conference in Nashville, Tennessee, was held November 15–18 and offered an engaging platform for professionals to connect, learn, and inspire one another in their shared mission of advancing the quality of early childhood education.

The lineup of distinguished speakers included thought leaders in early childhood education and several of our own Bing Nursery School educators. Head teacher Todd Erickson and team members Kathryn Carruthers and Melissa Gier shared their extensive practical and pedagogical experiences in “Playing With the Basics: Integrating Children's Developmental Domains Through Play With Basic Materials

(Blocks, Clay, Paint, Sand, and Water).” Their presentation examined the role of the teacher in facilitating an array of classroom experiences with materials that, while simple by nature, challenge children at all developmental levels and across the three educational domains: cognitive (thinking skills), affective (emotional responses), and psychomotor (physical skills). The team helped attendees understand how materials as simple as sand and water are also powerful and elegant educational tools. The presenters also invited participants to engage with these open-ended materials,

which had been thoughtfully arranged on tables for their use and exploration.

Teacher Jenna Valasek's presentation, “Be Our Guest: Seeing Young Children As Honored Guests,” examined what it means to create a classroom environment that champions respect, care, and inclusivity as tenets of a school's philosophy. Allowing children freedom of choice and movement can and should coexist within a pedagogical milieu that promotes a strengths-based competence model—one that values children as capable individuals rather than seeing them in terms of a deficit model (emphasizing what they can do rather than what they cannot). Together, participants envisioned other ways to encourage children to reach deeply into their natural capacities and to practice a positive growth mindset. This kind of perspective views learning as a process that can be enhanced through effort, as opposed to looking at intelligence as a fixed entity.

Head teacher and research coordinator Chia-wa Yeh presented a poster session titled “Beyond Sushi and Tacos



By Kiyan N., 5 years 2 months

in the Dramatic Play Area: A Journey in Supporting Emerging Bilingual and Multilingual Children.” The poster documented strategies suggested by members of the dual-language learning reflection group, a voluntary group of Bing teachers that Yeh organized, and how some of those strategies had been implemented in the classrooms. Incorporating children’s home languages through songs, stories, and other play-based activities fostered a sense of belonging for dual-language learners and promoted curiosity about and awareness of different languages for monolingual children. And, by welcoming family participation in the classroom, strong home-school connections were forged.

Teacher Angela Aquilizan was recognized by the National Association for Early Childhood Teacher Education (NAECTE) for her teacher research project on social justice and advocacy in early childhood education. She also participated in a presentation with Dr. Barbara Henderson from San Francisco

State University and Dr. Maleka Donaldson from Smith College, her fellow developmental editors for NAEYC’s online journal, *Voices of Practitioners*. They discussed the importance of engaging in reflective practice and inquiry work as educators. The cycle of inquiry work begins with an intention to effect change within the classroom or the overall program. Part of this process is to identify a question or a challenge that educators are currently facing that is related to their work with young children and families. This is followed by a search for and implementation of strategies that can help improve their current practice. The goal of engaging in inquiry work is for educators to become more aware and reflective about the impact of their systems and practices on the lives of young children and the families that they serve. In addition, Aquilizan presented her work using elements of the Critical Ethnographic Action Research (CEAR) project as a lens and form of teacher inquiry. (Go to <https://bit.ly/affirming-identity> to learn more about her research.)

A wide range of workshops and breakout sessions offered attendees the opportunity to explore specific topics in depth. These interactive sessions covered various aspects of early childhood education, including STEM learning, social-emotional development, literacy, play-based learning, and family engagement. Presenters shared evidence-based practices, cutting-edge research, and practical strategies that participants could implement in their own classroom settings.

This enriching event reinforced the critical role of early childhood education in supporting the development and well-being of young children. It offered a platform for professionals to engage with the latest research and innovative practices and to network with peers dedicated to making a difference in the lives of young learners and their families. The conference highlighted the current achievements and challenges in the field while also charting a path forward for advancing the quality and impact of early childhood education. **B**

14th Annual ECSTEM Conference: STEM Trailblazers

By Laura Benard, Teacher

Science, technology, engineering, and math (STEM) are areas that young children are naturally drawn to. You don’t have to spend much time in the yards and classrooms of Bing Nursery School to observe children building structures, creating models, testing theories, conducting experiments, and using numeracy both overtly and subtly. These endeavors can be an independent pursuit or a collaborative activity, underscoring the fact that children are endlessly creative and curious. As an educator who is always eager to incorporate novel STEM activities and themes into the curriculum, I was thrilled to attend the Early Childhood STEM Conference (ECSTEM) in Pasadena, California, in early February. This conference, themed “STEM Trailblazers,” was co-hosted by the Children’s Center

at Caltech and the Growing Place in Santa Monica and featured a wide range of speakers highlighting Montessori, Waldorf, Resources for Infant Educators (RIE), and Reggio Emilia approaches.

The conference welcomed nearly 500 attendees and opened with an inspiring keynote address by Matt Karlsen and Susan Harris MacKay, directors for the Center for Playful Inquiry. Karlsen and MacKay began their talk by stressing the importance of schools that invite, expand, and sustain the creative mindsets of our youngest inventors. Our task, they said, as early childhood educators is to curate spaces that encourage exploration. Children are not bound by the same preconceptions and perceived rules as adults and are therefore primed to be out-of-the-box thinkers. By supporting

and inspiring inventiveness in our early childhood classrooms, we are helping to create innovative, lifelong learners—the kinds of learners the world will need to solve its most challenging problems. “The imagination of adulthood,” said Karlsen, “is a reflection of the possibilities of childhood.” In addition to outlining ways to encourage inventiveness in our classrooms, Karlsen and MacKay emphasized the importance of supporting collaborative relation-



My caterpillar eats red apples, green leaves, and pink flowers.
By Owen M.,
3 years 8 months

ships. They shared insights from their experiences with children at the Portland Children’s Museum and Opal School to illustrate what these ideas look like in action, along with quotes from notable writers and researchers, including:

“The most productive tool for generating good ideas remains a circle of humans at a table, talking shop.” —Steven Johnson, author of *Where Good Ideas Come From*

“Our brains evolved to think with people: to teach them, to argue with them, to exchange stories with them. Human thought is exquisitely sensitive to context, and one of the most powerful contexts of all is the presence of other people. ... We think best when we think socially.”

—Annie Murphy Paul, science writer and author of *The Extended Mind*

These concepts and the ensuing discussions about social play and problem-solving immediately brought to mind the various shared spaces at Bing. Our classrooms and yards are peppered with innovative, collaborative spaces. From the myriad projects being created at design tables to the explorations of fluid dynamics at the water tables or in the sand area, from the elaborate feats of engineering created in the block areas to the engaging and often insightful conversations at the snack tables, STEM and social thinking are everywhere. The cooperation, negotiation, and serendipity that occurs in these spaces with

open-ended materials and mixed-age children is a major part of what makes the learning environment at Bing so rich.

The keynote address was followed by a panel discussion comprising educators from the U.S. and Europe, followed by inspiring sessions such as “Scale and Structure: Balance and Stability with Toddlers,” “Play + Math: Serious Learning,” “Creating Opportunities for Building Number Sense,” and “Exploring The Synergy: Art, Math, and Science.”

The 15th Annual ECSTEM Conference will be held next year in Santa Monica, California, and will, no doubt, be another inspiring opportunity for professional development. **B**

EVENTS AND INFORMATION

Kindergarten Information Night: Advice and Reassurance for the Transition Ahead

By Andrea Alexander Gorgazzi, Teacher

As children approach their fifth birthday, there is a common thread running through parents’ minds: “My child is going to kindergarten!” On January 17, Bing Nursery School staff and teachers gathered with approximately 70 parents to discuss next steps and answer questions at our Kindergarten Information Night.

Adrienne Lomangino, head teacher and pedagogical specialist, covered the nuts and bolts (including age requirements) for kindergarten programs in the local area. She focused on the many transitions kindergartners typically encounter at their new schools, which differ from their freedom of choice and freedom at movement at Bing. Following these key points, Lomangino discussed the Bing “Kindergarten Transition Survey,” an annual questionnaire offered to parents of Bing alumni entering kindergarten. Questions include chil-

dren’s feelings about school, tips for preparing parents and children for kindergarten, and, most importantly, how Bing prepares children for kindergarten. Results showed the following:

- Most children enjoy school, their teachers, and peers
- 66% of children were excited about entering kindergarten, while 86% were excited after attending for several months
- 76% of parents said the transition to kindergarten was somewhat easy or easy
- Very few parents found the transition difficult

Surveyed parents were straightforward when discussing how Bing influenced their child’s transition to kindergarten, stating that Bing alumni advocated for themselves and learned to work with a diverse group of people due to their

experience in mixed-age classrooms. The key element that parents referred to repeatedly was the confidence their child had gained while attending Bing. Indeed, the survey paints Bing as a place for risk-taking endeavors, where children are afforded the liberty to explore, experiment, and confront challenges in a nurturing and secure environment.

Lomangino enriched the presentation with other parental insights surrounding the kindergarten transition. These insights underscored the paramount importance of maintaining a positive outlook throughout the transition process—a sentiment reaffirmed by Bing’s pedagogical approach. Many parents also recommended familiarizing children with the nuances of their new educational environment, from unfamiliar schedules to fewer teachers in the classroom. During the initial transition to kindergarten, parents and educators alike

stressed the benefits of proactively addressing children’s potential fatigue and emotional fluctuations. Suggestions for preserving the children’s well-being included ensuring they get adequate rest and balanced nutrition and engaging in thoughtful discussions about the impending transition to soften potential anxieties.

Building Blocks of Readiness

Emma Vallarino, manager of Bing’s Kordestani Program for Parents and Educators, said that parents often ask what it means to be “ready for kindergarten.” She followed with a presentation called “The Basic Building Blocks of Kindergarten Readiness,” a pyramid model created by San Mateo and Santa Clara counties to show the multifaceted components of kindergarten readiness. Vallarino explained each feature of the pyramid and described the collaborative relationship between Bing and parents in fostering kindergarten readiness abilities. The pyramid begins with self-care and motor development, and progresses to social-emotional skills, self-regulation skills, language, communication, and literacy, culminating with mathematical proficiency. Foundational self-care skills include using the toilet, opening a lunch box and Thermos, and taking off and putting on one’s jacket.

The presentation then moved on to the middle tier of the pyramid: social-emotional and self-regulation skills. Bing’s program nurtures these competencies by fostering collaborative play, emerging literacy, and resilience-building experiences. Essential to this developmental path is acquiring self-regulation skills

by participating in structured routines and cooperative play—a hallmark of Bing’s educational philosophy.

At the top of the “readiness” pyramid is academic competency, which is woven into Bing’s play-centric curriculum. Children’s language acquisition and literacy development blossom through storytelling opportunities and participatory activities. Acting out restaurant roles in the dramatic play area, for example, or dictating a story to a teacher fosters linguistic fluency and narrative comprehension. Numerical skills are also embedded within the fabric of play-based collaborations as a fun and natural introduction to mathematical concepts and patterns.

Vallarino finalized her presentation by introducing a model of early developmental competencies known as the iceberg model, conceived by Dale Farran, a distinguished developmental psychologist at Vanderbilt University (see illustration on page 3). Farran’s research underscores the significance of measurable skills, such as early reading and numeracy skills, and the underlying competencies these rest on—including curiosity, persistence, and resilience—that form the basis of lifelong learning.

On the surface are tangible, quantifiable skills like mathematics and literacy. These tend to receive considerable emphasis due to their observable nature. Yet, beneath this surface lies a myriad of foundational skills that are key for sustained intellectual and socio-emotional growth. These underlying skills—such as persistence and flexibility—are nurtured in our play-based setting and prepare children for enduring educational success.

take that to mean they will change schools mid-year. She suggested that parents use the summer months to build bedtime and breakfast routines, practice self-help skills like toilet routines and putting away personal items, and complete necessary doctor visits. Predictable routines bring children a sense of security, especially as they approach kindergarten.

Teacher Kelli Agnich spoke about the start of kindergarten, drawing on what she experienced with her children. As a general matter, Agnich underscored the importance of maintaining a positive attitude toward the kindergarten transition in the presence of children. Keep private conversations with partners out of children’s earshot and ensure that public exchanges with fellow parents praise experiences and newfound friendships within the community. As a more practical matter, Agnich urged parents to be intentional with how time is allocated. While it may be tempting to enroll children in several activities, she suggested prioritizing quality over quantity.

Lastly, head teacher Todd Erickson pointed out how children engage with the present so effortlessly, reminding parents to follow their lead and cherish the precious moments with them without allowing thoughts to drift toward the future. Play on the carpet, read to your children, and build memories. Erickson also spoke about the intense emotions children might exhibit at home during their Bing years and when they transition to kindergarten. High emotions are often the result of a lengthy school day, making it so important for home to be a sanctuary where children can play and unwind.

As the evening came to a close, attendees were encouraged to think of the kindergarten transition as a dynamic event that unfolds over time rather than an isolated moment in a child’s life. Parents left the discussion assured that Bing has been preparing their children for the next developmental milestone and transition to kindergarten since the day they first set foot in the classroom. **B**

Teacher Tips to Ease the Process

Transitioning from presentation to panel, Bing teachers then offered a host of tips to help parents prepare their children for kindergarten. Head teacher Nandini Battacharjya cautioned against discussing kindergarten too early or often. If children hear, “You will go to kindergarten when you are 5,” they may



Four wheels.
By Edwin P.,
4 years 4 months

Welcome (Back) Our Music Specialist, Dr. Leslie Hart!

By Beth Wise, Program Director

It has been such an honor to work with Dr. Leslie Hart, who returned to Bing Nursery School this year after moving back with her family from Miami. In Florida, she ran and operated her Noise Lab classes, worked as a music specialist at a Head Start school in the predominantly Cuban suburb of Hialeah, and performed with the Naples Philharmonic, Palm Beach Symphony, and the Florida Grand Opera. As an accomplished French horn player, Leslie infuses her work with live performances and encourages children, teachers, and Stanford students to engage in music through improvisation and instruments. As a former music specialist at Bing, I was thrilled to sit down with Leslie to discuss coming back to the school and what she appreciates about being in the classroom again.

It's been great having you back at Bing as the music specialist! What would you say has been the highlight of your year?

I've been most surprised by the peer-to-peer learning that takes place when children are given the opportunity to share music. They clearly have this ability at this age, and they are picking it up from each other and continuing to invent and create songs. One example of this was at the Bing sing-along, where a child sang a song they'd written about flowers.



(Editor's note: You can listen to the song at <https://bit.ly/Bing-flower-song>.) The next day, another child came in and wanted to share their song about flowers. The child had borrowed some of the music from the other child's song, remembered the music, and composed a new song about flowers. This is just one example of many where children have clearly been inspired by each other. I've been surprised by how much revisiting happens in music at this age and how creative the children continue to be.

I notice that you've introduced many songs from other cultures, including rhythms and beats, which has been inspirational as you teach children how to gather and sing as a community. Tell me a little bit about how that's gone.

I'm very careful about choosing repertoire, the body of music I feel is worth sharing. As I mentioned, you never know what direction it's going to take or how the children will be inspired by the music. Therefore, I must be very thoughtful about what I choose. When I select something, I wonder if it will be popular or who will want to listen, so I may sing it again and see what sticks or generates creativity. I never know! For

example, I recently sang a Korean song called "Song-aji" about a little cow that looks like its mom. I wasn't aware of how many Korean speakers there were at the school, but seeing how the children embodied their native language and how that could be highlighted was beautiful! I look forward to introducing more tunes from other cultures; it's all in the spirit of learning and appreciating the joy around music.

You organized and performed in an incredible *Peter and the Wolf* performance that helped relaunch the Bing Nursery School Performance Series after a long hiatus during the pandemic. Please tell us a little about that.

Yes! That was an exciting and fun introduction back to the concert series in February 2024. *Peter and the Wolf* is a classic, so I thought it would be wonderful and that many people would want to attend that concert, which they did. It was a huge success and a sold-out performance at Dinkelspiel Auditorium at Stanford. During the last week of the summer session, I read and sang the music from *Peter and the Wolf* three times in one session on the ukulele and the French horn. Children know the instruments, they know the animals, and they know the whole story.

I've heard the beautiful music coming from the yards outside when you're playing your French horn!

Yes, it's returning to the power of an excellent performance or a great tune that speaks to many children at the age of 3, 4, or 5, who are still revisiting it months later. Some of the children who started school this summer are just now hearing the story of *Peter and the Wolf*. It inspires them and will continue to, and



A unicorn in the forest. By Lina R., 4 years 2 months

I do not doubt that I will be reading that story for the rest of my time at Bing! It speaks to the power of what a concert can do to inspire children.

Looking ahead, what have you planned for the future?

We will start the year with a family concert on October 5, 2024, featuring jazz clarinetist Oran Etkin, who brings an unusual musical perspective. He has traveled the world, performing and learning music from various cultures. He integrates those experiences into his jazz,

and he has a wonderful ability to communicate and share his talents with young children. On March 1, 2025, we're excited to welcome my brass quintet, Emerald Brass, for a fun show featuring Mexican, Argentine, and Spanish traditional dance music with a story from 16th century Italian *commedia dell'arte* [comedy of professional artists]. Mark your calendars!

I'm also impressed with how you've inspired Stanford students who work and take classes at Bing to bring their instruments and join in your work with children.

Yes, I've supported a student playing piano, another who plays French horn, a vocalist, a saxophone player, and a percussionist. This is just the tip of the iceberg. Bing provides a beautiful model for teachers and students to learn in this amazing environment and bring their unique musicianship into it. I'm really excited about future possibilities too.

We are very lucky to have you back at Bing and look forward to an incredible year ahead!

Thank you. I'm so happy to be back! **B**

BING NURSERY SCHOOL PERFORMANCE SERIES AND MUSICAL EXPERIENCES

This year's performance of the *Peter and the Wolf*—Sergei Prokofiev's 1936 children's tale in which different instruments represent the various characters in the story—took place on February 10 at Stanford's Dinkelspiel Auditorium as part of Bing Nursery School's Performance Series. The series introduces young children to the performing arts, expanding their knowledge of different cultures through music and dance and setting the stage for a lifelong appreciation of the arts in every form.

Peter and the Wolf is a beloved tale about meeting challenges with courage. The audience of the sold-out show had the pleasure of listening to actress and Stanford alumna Sangini Bedner narrate the story, while the Fratello Marionettes performed with puppets! They were accompanied by musicians MyungJu Yeo (flute), Adrienne Malley (oboe), Michael Corner (clarinet), Carolyn Lockhart (bassoon), and Bing music specialist Leslie Hart (horn).

We celebrated a year of music at Bing at our end-of-year concert on June 11! Local jazz artists performed familiar Bing tunes, including "The Bear Missed the Train." Parent and Stanford alumnus Eugene Robinson, a member of the band Oxbow, delighted families with a rendition of "Eerie Canal," performed with his daughter, who is currently enrolled at Bing.

In addition to our performance series, acclaimed clarinetist and composer Oran Etkin visited Bing classrooms during music time. He introduced his instrument, "Clara Net," which he played alongside her French horn "brother," played by teacher Leslie. Etkin is a familiar face at Bing, as he participated in the Performance Series in 2013 and 2019.

Our end-of-quarter sing-alongs are a favorite for everyone at Bing! Last summer, children shared songs they had composed with the entire com-



munity. We also joined together to sing "Song-aji," a popular Korean tune that offered many children who speak Korean with an opportunity to celebrate their language.

This year's musical events were a big success, and we look forward to welcoming more musicians, instruments, and songs into our community and classrooms!



Bing Children's Fair

By Sandi Gedeon, Administrative Director

In October 2023, we had our first ever Bing Fall Children's Fair, moving it from the spring quarter. It was a wonderful welcome event for children and families for our 2023–24 academic year.

Attendees enjoyed activity and craft booths as well as live entertainment, which included a performance by the Palo Alto Chamber Orchestra String Quartet, and our very own music specialist, Leslie Hart, with special Bing Nursery School friends, consisting of current and former Bing staff and parents. The incomparable Leland Stanford Junior University Marching Band closed the fair and was a huge hit with children and adults alike.

Over 150 parents prepared goods for the bake sale and the food booths. Cupcakes, brownies, and sweets of all kinds were popular, and nobody could pass up the delicious variety of food—from macaroni and cheese to salads to bean and cheese burritos to pizza. Additionally, new contributors joined many businesses that donated previously in providing food and gift cards. Special thanks to: Ana's Bakery, Asian Box Street Food, Boichik Bagels, Coupa Café, Curry Pizza House, Di Wang &



Nene, Douce France, Silvia Fernandez Illescas, Grocery Outlet Bargain Market, HE&C Tea+Pot, Joanie's Café, Gary Kremen, Lulu's, Noah's Bagels, P.F. Chang's, Peet's Coffee, Pizza My Heart, Jenny Rahn, Sophie Rahn, Sun of Wolf Palo Alto, Terún Pizzeria Ristorante Bar, True Food Kitchen, and Wildseed.

Children and families enjoyed the ever-popular cake walk, face painting booth, duck pond, fishing hole, scavenger hunt (which involved a search for large dinosaurs and dinosaur bones), water works, and many more activities and booths. It was lovely to see new and continuing children's faces light up when they entered the grounds and hunted down the "Pocket Person" for tickets and to pick a prize. Fun was had by all.

We would like to thank our event co-chairs, Maureen Fan, Jenny Fandrianto, Miao Li, and Poonam Sidhu for organizing a beautiful fair, as well as the over 150 parent volunteers and the Bing teachers and staff who helped with the activity and food booths. Proceeds from the fair benefit the Bing Nursery School Scholarship Fund. **B**

FAIR CO-CHAIRS: Maureen Fan, Jenny Fandrianto, Miao Li, Poonam Sidhu

ACTIVITY CHAIRS: Advanced Ticket Sales: Kali Hira, Gary Kremen • Alumni Photo Booth: Nate Coombs • Bake Sale: Dani Chammas, Elizabeth Trumbull • Baseball Toss: Michael Breyer • Beanbag Toss: Genevieve Gaines • Cake Walk: Andrea Joseph • Challenge Course: Mary Dicou • Cookie Painting: Liz Stinson • Duck Pond: Andrea Fewster • Easel Painting: Jess Gao • Face Painting: Ying Wang • Finance/Ticket Sales: Natalie Chang • Fishing Hole: Margaret Caughron • Fruit Juice Bars: Gina Kwon • Handprints: Helen Hwang • International/American Foods: Summer Karam • International/American Foods Kitchen: Trinity Barnes • Pizza Booth: Sarah Davis, Shayna Modarresi • Pocket Person: Nicole Quinn • Runners Team: Andrew Fandrianto • Sandcastles: Maria Pasquale • Saturday Set-Up: Giannina Ong • Scavenger Hunt: Jessica Tsoong • Spirit Shop: Siejen Stevenson • Sunday Set-Up: Robert Luo • Treasure Bags: Danielle Nakamatsu-Wong • Volunteer Sign-In: Ophelia Yeung • Water Works: Karoline Katus • Wood Gluing: Eunice Hwang, Libby Jones

Bing Spring Gala

By Sandi Gedeon, Administrative Director

This year, the Bing Harvest Moon Auction moved to the spring and was rebranded as the Bing Spring Gala. The 34th annual auction, with a Roaring '20s theme, was held on April 20 at Bing Nursery School for the first time since 2001. Many families were excited to join us for this wonderful fundraiser to support the Bing Nursery School Scholarship Fund, which provides tuition support for families in need. Once again, Helen and Peter Bing were major benefactors, kicking off the auction with a generous gift of \$50,000. In total, the auction raised over \$300,000.

As guests arrived dressed in flapper dresses, gangster suits, feathers, boas, and bling, they were greeted by a vintage car photo op in front of the school and entertained by a beautiful jazz duo, Rebecca DuMaine (a former Bing parent) and her father, Dave Miller. The school was transformed to evoke the 1920s, with a speakeasy set up on the classroom patios serving Gin Rickeys and Paloma cocktails. Flickering votive candles, feathers, and black-and-gold décor added to the Jazz Age atmosphere. B&B Catering and Events provided us with a delicious 1920s-themed menu of buttermilk fried chicken sandwiches, chilled prawns, sliced sirloin of beef, and B&B's cheese puffs. Desserts were



Left: Bing atrium. Middle: Auction co-chairs: Shara Watkins, at left, and Amanda Donahue. Right: Auctioneers: Bing head teacher Todd Erickson, at left, and former Bing parent, Adam Tobin.

donated by Chuao Chocolatier and Cocola Bakery, and coffee was donated by Coupa Café and Konditorei. Champagne, wine, and beer were donated by J. Lohr, The Willows Market, and Just Enough Wines. We would like to extend our gratitude to our generous sponsors: Charlotte and Peter Deng; Jess Gao; The Gasol Family; Michelle Hewlett; Jacob Levy and Thalita Berpan; Dr. Michelle Haghpanah and Dr. Reena Grover of Little Bytes Pediatric Dentistry; Liz Stinson; Laura Yip and Man-Hay Tam; Ledell, Meihong, and Forest Wang.

Once guests arrived at the speakeasy, they made their way into the classrooms to bid on more than 250 silent auction items, buy-a-spot events with over 15 teacher-sponsored events, and more than 40 child-themed class gift baskets up for auction.

Bing head teacher Todd Erickson and his co-auctioneer, former Bing parent Adam Tobin, again proved to be the perfect pair to conduct the live auction. With humor and persistence, more than 10 items were

auctioned off, including a private chef dining experience with Vallarino Events, an opportunity for a child to be an honorary bookseller at the legendary Linden Tree Books in Los Altos, dinner with teachers Nandini and Parull, a behind-the-scenes aquarium tour at the California Academy of Sciences, an Opus One Once-in-a-Lifetime Wine Experience for four plus a magnum of the Kindergarten Vintage, and many more. We raised more than \$80,000 during our live auction, including bids for the ever-popular Fund a Scholarship, which solicits cash donations for the Bing Scholarship Fund. Prior to the auction, we had already raised \$102,000 for this fund. Our online auction, through BiddingforGood, included more than 75 items and event buy-a-spots and raised more than \$20,000.

As always, we wouldn't have a successful auction without our wonderful auction co-chairs, Amanda Donahue and Shara Watkins. We thank them for their vision, leadership, creativity, and dedication. We are also extremely grateful for the parent volunteers, who worked on 17 committees, and our dedicated teachers and staff. A big thank-you to those who supported this important event by donating, attending the gala, and bidding on items. Our success is attributed to every member of the Bing community!

For Bing's 35th gala, we will be returning to a Harvest Moon Auction. Mark your calendars for December 7, 2024. We look forward to seeing everyone there! **B**

AUCTION CO-CHAIRS: Amanda Donahue and Shara Watkins

COMMITTEE CHAIRS: Check-In: Akasha Gray, Michelle Reddy • Class Gifts: Yan Yu • Cleanup: Francis Larkin, Jeffrey Nagashima • Closing Auction Tables: Zhen Fang, Maddison Masaeli • Creative Writing: Sara Davis, Angela Morgenstern • Data Entry: Keri Brenner, Dani Chammas • Decorations: Niloofar Mansourian • Display and Setup: Aabed Meer • Events and Parties: Mayank Girdhar, Aidana Jussupova • Food and Beverage: Camelia Coupal, Summer Karam • Graphic Design: Virginia Gutiérrez-Porter, Mischa Rosenberg • Inventory: Susan Klein • Online Auction: Robert Luo, Ophelia Yeung • Packers and Movers: Nate Coombs, Rodrigo Gorgazzi • Runners: Libby Jones • Solicitations: Carolyn Kiang, Poonam Jolly Sidhu, Vu Van • Ticket Trackers: Selma Suna Leloglu, Emre Sargin

SAVE THE DATE
WINTER WONDERLAND



**Bing Nursery School's
35th Annual Harvest Moon Auction
Saturday, December 7, 2024 at 6:30 pm
Stanford Faculty Club
439 Lagunita Dr., Stanford, CA, 94305**