Play is like nothing else in life, especially for young children. It brings alive their creativity and passion, and it leads them to learn. In the magical world of play, children act out what is on their minds; they practice life, as they know it, on their own terms. Their play can be based on real events (a new baby in the family), or it can be strictly fantasy (fairies and dragons) or some combination of the two (a castle has to be built for the new baby to save her from the dragon, but remember that we need a changing table). In play, children make their own rules and the rules change depending upon many factors, none of which necessarily makes sense from the adult perspective.

A play-based, child-centered program, like Bing, is fundamental to fostering creativity and a passion for discovery and curiosity that will last a lifetime. Let’s examine the essential components of such a program:

First, a pedagogy that truly honors the child is essential. Honoring children enables them to make their own choices, ask questions and be supported in finding the answers with thoughtful teachers as well as with their peers. Best teaching practices should support divergent thinking (the ability to be fluent, flexible, original and able to elaborate), which is key to inspiring and fueling creativity (Fox and Schirrmacher, 2012). Teachers who skillfully listen to children as they share and articulate their ideas will guide them toward innovative, collaborative and creative problem solving in their social relationships, use of materials and overall development. Teachers’ support will also help children understand that their peers may have solutions to challenges and good ideas for new ways to play.

Second, it is important to provide a flexible, accepting and hands-on environment designed specifically for young children that offers appropriate challenges to guide their exploration (cognitively, socially, emotionally and physically). The physical environment needs enough space for a child to comfortably engage in small group, large group or solitary play. Optimal environments include safe and accessible outdoor areas since learning takes place both indoors and out.

Thoughtfully arranged spaces help children feel secure, enabling them to make their own choices and do what they want, how they want it, and with whom they want. Teachers and parents have a responsibility to provide respect, understanding and challenges that fully support children’s development and enable them to express their ideas and build upon them over time. Children thrive in environments that offer opportunities for repeated experience in order to become masters of play; and masters of play often become tomorrow’s innovators.

Third, “the gift of time” refers to giving children a large amount of uninterrupted time to play and explore. This allows the child to make choices, whether on their own, with peers or with a teacher. Time is essential in nurturing every aspect of a child’s development. In our modern world, we are often in a hurry and there never seems to be enough time. Giving children the gift of time enables them to invest in learning more thoroughly, and develop the ability to approach learning both passionately and creatively.

Fourth, the use of basic, open-ended materials (blocks, clay, paint, sand and water) fosters creative and expansive play opportunities. These basic materials, available every day, are essential to fueling the imaginations and creative spirits of young children. Other important elements include: high-quality musical instruments, woodworking materials, quality children’s literature, natural objects...
to work with basic, open-ended materials. A 4 1/2-year-old girl demonstrates her ability to examine (such as rocks, seeds, shells, fabrics and tree trunks), dress-up clothing and other dramatic play props, baby dolls, buckets, measuring cups, funnels, pulleys, ropes and additional art materials (brushes, pencils, crayons, different types of paper and found materials). These are all examples of basic, open-ended elements put into the classroom environment to support the growth and development of the young child and to promote creativity, innovation and problem-solving skills.

Finally, the most important aspect in supporting a young child’s creativity and passion for learning is having teachers who possess not only an enthusiasm for teaching, but also a deep respect for the child. The respectful teacher supports each child and trusts that the child has a good reason for doing what he does. This translates to teachers who listen to the child and who can pick up on the child’s needs, interests and feelings. These teachers understand that if a child has a strong feeling there must be a compelling reason for it and they take the time to help the child communicate those feelings. Teachers who ask both open-ended and thought-provoking questions will help the child to grow and develop their own analytical thinking and perspective-taking abilities. In turn, such exchanges help the child to reflect on his own understanding and thinking.

The following anecdotes highlight how children develop as problem solvers and creative thinkers. In the first anecdote, a 4 1/2-year-old girl demonstrates her ability to work with basic, open-ended materials as well as with her peers to engage in complex problem solving and creative thinking. She also exhibits an understanding of cause and effect as she makes and assigns rules.

A group of children were saying that they thought another group of children, who were pretending to be monsters, were too scary. Christine made pretend soup for the frightened group and said, “Here, have this food that makes you not afraid of anything! Then you won’t be scared of them.” When the game changed and the monster group was telling the frightened group that there was a flood and their house was getting wet, Christine made a new soup that made the drinker waterproof. The game changed a third time: The house was a spaceship and the monster group said it had taken off without the first group of children. Christine then made them “soup to help you fly,” so they could catch up with the spaceship.

In a second anecdote, it is clear that the child has some understanding about the elements of cooking. He acts out something that he has seen or even participated in at home. He is deeply engaged and motivated as he problem-solves with the open-ended materials and tests out his ideas. The classroom set-up serves as both an invitation and a provocation to let the child expand his creativity.

Three-year-old Jamie approached a table (complete with checkered tablecloth) set up with a variety of cooking utensils (bowls filled with fluffy soap bubbles, whisk, spoons, funnels and wooden eggs). He carefully scanned the array of materials as he quietly hummed to himself. He filled bowls with soapy water, pretended to crack several eggs and whisked the soapsuds until the bowl was overflowing. The environment around him was filled with children working at the woodworking table, others building with large hollow blocks and several children ease painting. Jamie was so involved in his play it seemed as if there was nothing else going on around him. He remained immersed in his play for a full 20 minutes before Amanda approached him and asked him if he wanted to play. Jamie paused in his action for a moment, as if to consider whether to continue or to join his friend. He then said, “I will when I am done making my (he paused for a moment as if he were really thinking about what he was creating) soup.” He continued to stir the soup. Then slowly and carefully, so as not to spill a drop, he lifted the spoon up close to his mouth, pretending to blow on it to cool it down and then taking a pretend sip. Satisfied that the soup was done, he laid the spoon down, wiped his hands on his shirt and proceeded to join his friend for a train ride.

Harvard educator and author Tony Wagner in his new book Creating Innovators (2012) talks about play, passion and purpose and concludes that, “in order for children to grow creatively and be able to be the next innovators, they need to play today to develop a sense of purpose which will in turn become passion in the future.” As young children move into a more formal education system, they will face new challenges and learning opportunities. The skills they have learned through a play-based nursery school experience will provide them with a strong foundation from which to face those challenges and the tools to take advantage of those learning opportunities. “If children are helped toward independence and confidence in themselves, they will be open to new experiences of all kinds, including academic learning, and later, when their minds are more mature, they can become not merely good students, but true scholars, able to not only acquire knowledge but to evaluate what they learn and apply it in both personally satisfying and socially useful ways.” (Griffin, 1982)

To support this natural curiosity, love of learning, inherent drive to interact with the world around them and desire to pursue their passions, we are giving children the best start in life that we can through play!
What does it mean to raise innovative children?

Are we teaching our children the skills they need to create, innovate, to go out and change the world?

It was with these queries that Tony Wagner, the author of Creating Innovators: The Making of Young People Who Will Change the World, held the rapt attention of an audience of parents, educators and others at the 2012 Bing Nursery School Distinguished Lecture one Tuesday night in early May.

The Extinction of Passive Learning

Our failing schools and the need to “reform” them have befuddled us for well over the past quarter of a century. Einstein famously wrote that the formulation of a problem is often more essential than its solution. “As such,” said Wagner, “I would like to suggest a reformulation of the problem in education.”

Our education system has traditionally been a passive one, based on the premise of knowledge scarcity. That is, educators held the “knowledge” and students could only get educated through teachers.

This is no longer true, observed Wagner. Education today is a commodity. It is free and growing exponentially—available on every internet-connected device. Since anyone can look up information like the periodic table, the number of planets and state capitals instantly, the value of merely knowing something has dropped to near zero in our society.

The world no longer cares what our students know. Rather, it cares about what they can do with what they know.

This, of course, is an entirely different education challenge. The new questions in education are: Do our children have the skill? Do they have the will?

In his 2005 book, The World Is Flat: A Brief History of the Twenty-First Century, Thomas Friedman predicted that very soon we would be living in a world where any job that can be turned into a routine would be either automated or off-shored.

“I got something wrong in that book,” Friedman recently told Wagner, “the pace of change.”

The world of work is changing far more rapidly than Friedman had imagined when he wrote his book.

Taking heed of Friedman’s words, Wagner began researching the skills that matter the most today in order for young people to get and keep a good job. He interviewed executives from a wide range of companies, from Apple to Unilever to the US military, and spoke to college teachers and community leaders.

Seven Skills for Survival

Wagner came to understand that in addition to the truly foundational qualities that define us as human beings—moral courage, integrity, compassion, empathy, a strong work ethic—there is a set of new skills that are critical, not just for a career, but for continuous learning and citizenship.

These seven “survival” skills for college, career and citizenship are: critical thinking and problem solving; collaboration across networks and leading by influence; agility and adaptability; initiative and entrepreneurialism; effective oral and written communication; the ability to access and analyze information; and curiosity and imagination.

The global achievement gap, observes Wagner, is quite simply the gap between the new skills all students need versus what is taught and tested at our very best schools.

Test Preparation and Other Fallacies

The problem is that the primary focus, even in our very best schools, is curriculum and test preparation.

Though Wagner believes in accountability, the tests we are using currently are sorely lacking; they are predominantly multiple choice and factual recall tests, even for advanced placement. These types of tests tell us very little of the important information we need about readiness for college, career and citizenship.

“We are trying to do accountability on the cheap,” warned Wagner. “There are better tests.”

A Ground Shift

Two things happened as Wagner wrapped up his research nearly four years ago. Both took him by surprise.

The first was affirmation from all over the world—from Taiwan, Singapore, Thailand and Bahrain, to Finland, Spain and England—about his theories on the skills necessary to thrive in the world of work.

The second thing: the global economic collapse.

“Suddenly I saw kids with B.A. degrees from good colleges going home to $30,000 worth of debt…and no job.”
Dismal statistics illustrate the depth of the problems we are facing: College under-graduates under 25 have an unemployment rate of 53 percent and a full third are living at home.

Wagner’s research took an interesting new turn as he began to examine the possible relationship between our education system and the economic crisis.

More than 70 percent of our economy is based on consumer spending. Increasingly, over the last 20 or so years, that consumer spending is fueled by debt. The savings rate in 2007, immediately before the economic collapse, was minus 2 percent.

Wagner’s findings led him to conclude that the root of our economic woes was not just the obvious—credit default swaps and a hyper-inflated real estate market—but our economy’s dependence on consumer spending.

Put another way: “People spending money they do not have to buy things they may not need, threatening the planet in the process.”

This course was—and remains—wholly unsustainable.

A One-Word Solution

But what is the alternative? And what is the solution?

A single answer appeared over and over again: innovation.

According to Wagner, the idea is not necessarily that we produce more breakthroughs in science, technology, engineering and math (collectively, “STEM”) fields, but that we produce more and better ideas to solve different types of problems—addressing issues that the world needs solving. This, in turn, generates jobs and wealth.

Creating innovators, however, is no simple proposition. Though the United States has always been known as a fairly innovative country, it has only had a handful of highly successful innovators. Examining the data, Wagner had to wonder whether these people were innovative because of, or in spite of, our education system.

To illustrate this, Wagner asked what some of our biggest innovators—Bill Gates, Mark Zuckerberg, Bonnie Raitt, and scientist and inventor Edwin Land, best known as the co-founder of the Polaroid Corporation—have in common? They all dropped out of Harvard!

Arguably, the kids who dropped out may have ended up contributing more than those who stayed.

The Making of a Young Innovator

Wagner turned to what turned out to be the most compelling question of all: What creates a young innovator?

This time Wagner interviewed a wide range of highly innovative young people in their twenties—successes from the STEM fields, social entrepreneurs and innovators, artists and musicians.

Next, he spoke to the innovators’ parents to discern whether particular patterns of parenting made a difference.

And finally, he asked the young innovators whether there was a teacher or mentor who had made a significant difference in their capacity to innovate. One-third could not name a single teacher or mentor who had influenced them.

The Influence of “Outliers”

When Wagner set out to interview the teachers and mentors who were named, he made a startling discovery that he found unsettling for our future: In every single case, the teachers who had made the greatest difference were outliers in their institutions.

None of these inspiring educators, who came from institutions as varied as Stanford, MIT, Harvard, Carnegie Mellon and Tulane, had tenure! Nor did Wagner think they would ever get it.

That, observed Wagner, is principally because most were not engaging in the “right kind” of research—pure research offered at the expense of real, applied research and hands-on learning that leads to student innovation.

Instead, the outlying teachers and mentors were “far more concerned with developing the skills young people need to develop a difference in the world.”

This pattern persisted in all education settings—from pre-kindergarten all the way to graduate schools.

There were, however, a few notable exceptions. These included Bing Nursery School, High Tech High School, the d.school at Stanford, the MIT Media Lab and the Olin College of Engineering.

Wagner found that in all these settings, teachers taught students in a remarkably consistent way—consistent, in fact, with how the outliers taught.

“What I have come to understand,” says Wagner, “is that it is not just about skills—which are necessary but not sufficient. It’s also about the culture of learning in classrooms and the difference that makes for kids.”

What Creates Innovators—and What Doesn’t

Our mainstream culture of schooling is radically at odds with the culture that produces young innovators in five essential respects:

Team sport. We celebrate and reward individual achievement in our schools, where the emphasis is being better than someone else. While there’s a place for this, innovation is a team sport. Every one of the innovative teachers built real, accountable teamwork into their lessons and study.

Multi-disciplinary, problem-based learning. We celebrate and reward specialization. College students are expected to major and become specialists in a course of study.
The world of innovation, by contrast, is about problem-based learning and using multiple disciplines for understanding. Judy Gilbert, director of talent at Google, told Wagner that educators must realize that our problems now can neither be understood nor solved within the bright lines of academic disciplines.

**Importance of failure.** Our current culture of schooling is risk averse. “We penalize failure, heavily,” said Wagner. We discourage children from trying new things. We discourage teachers from trying new things and taking risks. Ours is a compliance-based system at every single level.

The world of innovation, however, revolves around taking risks, trial and error, and learning from mistakes.

The storied Palo Alto design firm IDEO has a motto: “Fail early and fail often.”

“We’re actually thinking that F is the new A,” joked a professor at Stanford’s d.school.

At the innovative Olin College of Engineering, every single course is interdisciplinary, project-based and hands-on. Students there do not talk about failure. They talk about iteration.

**Active creating.** Much of our schooling is a profoundly passive experience. “We mostly sit and ‘get’ in school,” observed Wagner. But classrooms that produce innovators are all about creating versus consuming. “Real products for real audiences solving real problems.”

**Intrinsic motivation.** We are far too reliant on extrinsic incentives to motivate learning. During his interviews of young innovators, who came from both privileged and disadvantaged backgrounds, Wagner found that all were far more intrinsically motivated.

“We are born to be intrinsically motivated and creative, curious, imaginative,” said Wagner. “It’s in our DNA, it’s in our blood… until it gets schooled or parented out of us.”

**Play, Purpose, Passion**

The parents and teachers of the young and innovative did something different: They actively encouraged more exploratory and discovery-based play — the kind of play you find at Bing: sand, clay, paint, blocks, water.

Wagner observed: “Fewer toys; more toys like Legos where you build anything; toys without batteries; limiting screen time; didn’t fill up schedules with all kinds of lessons; made sure they went outside to play.”

What’s more, these parents encouraged and sought to understand what their children were passionate about. What do they want to learn? What do they want to study and understand? The parents were far more interested in what their children’s passions were than more academic achievement.

Wagner saw the same pattern with outstanding teachers: They sought to understand their students’ interests and how they could build time into every single class for some kind of student-driven research or inquiry. At Bing, Wagner saw teachers carefully observing the students to try to understand where they were engaged and how they could deepen and enrich that engagement.

Parents and teachers of most young innovators agreed that as children they wanted to make a difference more than they wanted to make a lot of money. As these kids found and discovered their passions, they changed, they morphed, they evolved. In every single case, that passion deepened in young adulthood into a sense of purpose.

In the end, said Wagner, purpose becomes a kind of adult play.

And therein lies the developmental arc of innovation: Play to passion to purpose.

---

**Promoting Inquiry in Early Childhood Education: An Inservice with Barbara Henderson and Daniel Meier**

By Todd Erickson, Teacher

*Teachers who undertake inquiry... demonstrate to themselves, the families they serve, their administrators, and their colleagues that they, as ECE [early childhood education] practitioners, understand and act upon the trust placed in them to support children’s learning and development.*

—Daniel Meier and Barbara Henderson, *Learning from Young Children in the Classroom: The Art and Science of Teacher Research*

**GUEST SPEAKERS**

Promoting Inquiry in Early Childhood Education: An Inservice with Barbara Henderson and Daniel Meier

By Todd Erickson, Teacher

Teachers who undertake inquiry... demonstrate to themselves, the families they serve, their administrators, and their colleagues that they, as ECE [early childhood education] practitioners, understand and act upon the trust placed in them to support children’s learning and development.

—Daniel Meier and Barbara Henderson, *Learning from Young Children in the Classroom: The Art and Science of Teacher Research*

Teacher inquiry, in its various forms and functions, was the invigorating topic of the Feb. 17, 2012 Bing staff inservice session with San Francisco State University professors Barbara Henderson, PhD, and Daniel Meier PhD. Henderson and Meier head San Francisco State’s early childhood education concentration for the school’s master’s of education program, co-edit the National Association for the Education of Young Children’s peer-reviewed journal *Voices of Practitioners* and have authored many books about teaching children. Their most recent book is *Our Inquiry, Our Practice: Undertaking, Supporting, and Learning from Early Childhood Teacher Researchers*, co-edited with Gail Perry, PhD.

The speakers brought their estimable experience and passion to Bing to discuss classroom-based inquiry. The process of inquiry, which challenges teachers to question their practice and pedagogy, creates a springboard for reflection, professional development and mutual knowledge. During our morning together, Henderson and Meier focused on two distinct inquiry paths: *oral inquiry* and *narrative inquiry*.

According to Henderson, oral inquiry found its origins in the work and writing of John Dewey, PhD, an early 19th century educational reformer who promoted teachers as “knowledge workers and creators, not technicians.” Dewey created and espoused a caring and democratic educational phi-
philosophy where teachers work alongside children to problem-solve, scaffold/support learning and challenge and change ideas.

This progressive educational stance eventually birthed a qualitative, inquiry-based process that came to be known as teacher research. As described by Henderson, teacher research is an educator-led process that “addresses teachers’ practices, is systematic and intentional, amplifies child voices and finds important truths through depth of documentation.”

Henderson focused largely on oral forms of teacher research, most specifically on a collaborative oral inquiry form known as descriptive review. Descriptive review, which emanated from Patricia Carini and the other teachers at Vermont’s Prospect School in the 1960s and 1970s, created a protocol for oral inquiry that offers deliberate and exacting observation of and reflection on a question or challenge. The protocol is largely employed by small groups of educators as a means for off-hours professional development and might feature a question such as, “How is it that [specific child] always seems to slip by me? How can I get a clearer picture of where she is making her presence felt in the group?” As in the above example, most often the question focuses on something specific, such as a child or a child’s work. However, a descriptive review can also address topics as general as a teaching practice or an entire school.

Descriptive reviews draw their significance, said Henderson, from the “equal and accountable roles of the participants in searching for nuance, intentionality and human capacity in the child, work or process under consideration. By observing through a lens of strength, new connections and understandings can be reached.” When a teacher focuses on a child’s strengths, or competencies, the trust and capability generated creates significant opportunities for the child to address developmental hurdles and for the teacher to consider that child from a wider perspective. Given Bing’s pedagogical respect for children and their competencies, this type of oral inquiry drew the interest of Bing’s teaching teams as a means to deeper conversation concerning classroom teaching.

Meier then followed Henderson by introducing the staff to narrative inquiry. As the name suggests, this methodology focuses on observing and exploring an essential part of our human nature: the narratives of children and teachers. As opposed to quantitative research, with a specific problem and definitive answers, Meier noted that narrative inquiry is “more like a puzzle, where you might end up with more questions. It’s cognitive, analytic; a sense of search and re-search.” While formerly the domain of academia, narrative inquiry moved into early childhood education as a way to “break down that gap between child stories and teacher stories. It’s contextual, historical and cultural.” Examples of educators who employ narrative inquiry to chronicle classroom stories for deeper professional connections include Meier and the iconic Vivian Paley, a longtime kindergarten teacher, winner of the 1989 MacArthur Fellowship and author of 13 books on the world of young children, including the seminal Wally’s Stories.

To demonstrate a few of the techniques available in this expansive form, Meier introduced The Diary of Laura, a thoughtful chronicle of an infant’s first year in an infant-toddler center in the Italian city of Reggio Emilia. Laura’s teachers employed written journal entries and photographs, along with narrative inquiry, to demonstrate the girl’s subtle but powerful interaction with peers, adults and materials. Through regular, careful documentation about Laura’s steady growth, the teachers applied a narrative inquiry tool Meier termed a “story arc,” which allows teachers to express change through relatable storylines that “mirror children’s and teacher’s learning and development.” A question or challenge can also sometimes provide the impetus for narrative inquiry. Laura asks and solves many of her own questions throughout the diary including, for example, the origin and purpose of her reflection in the mirror. Photographs and documentation show Laura stretching out her hands and watching carefully as these motions are captured simultaneously in her reflection. Meier also demonstrated how a well-placed and provocative question or opportunity might “thicken the plot” of the narrative and deepen the child’s growing understanding in the example of Laura and the watch. As Laura was looking at a catalog with pictures of watches, the teacher identified her own wristwatch to Laura and allowed the young child to listen to its tick-tock sound. This prompted Laura to return to the images of watches and confidently put her ear next to the page, expecting to hear the same sound.

Henderson and Meier provided the Bing staff with an array of meaningful and effective tools to challenge and examine our own practice and pedagogy. Using oral and narrative inquiry to widen our lenses and deepen our reflection, we can become, as Meier described it, “co-discoverers and co-explorers” with the children and families we serve.

Yard Renovation Update

Bing Nursery School’s multi-phase yard renovation continues this year. A hand-crafted wooden stage was built in the Center classroom yard this June.

This is their mother in the hole. She is making something to eat.

By Jacob M., 4 years 4 months
“People remember how you make them feel,” Jeannie Kahwajy, PhD, advised the Bing staff at a lecture on tools for effective communication during fall set-up week. Her talk, “Effective Interactions: The Language of Leadership,” was on Sept. 1, 2011.

Kahwajy, founder and CEO of the management consulting firm Effective Interactions, provides consulting and coaching to help leaders increase the effectiveness of their interactions. She bases her work on theories about communication, interaction and leadership that she formulated while working toward her PhD in engineering management at Stanford.

Kahwajy’s talk focused on how to have effective interactions by changing one’s perspective on communication. She explained the major difference between engaging with someone’s spirit and talking at someone’s head, suggesting that engaging with someone’s spirit and talking to their heart enables you to change their head (or the way they think about things).

Kahwajy went on to dissect effective interactions; their qualities include making oneself truly able to receive information, being open to learning rather than judging others’ behaviors and maintaining the mindset “I am ready to change” rather than “You should change.” Our pre-existing biases and our expectations and assumptions of what should happen are barriers that lead to ineffective communication, she said. The solution is adopting a learning approach: shifting the focus to ourselves so we enter interactions willing to change our own perspective. She used the metaphor of an iceberg to explain how this works: The visible part is our behavior and below the surface is our intention. If one’s intentions are to be a learner and one is ready to receive in a way that invites other people to update one’s beliefs and biases, then one is breaking down the barriers to effective communication and is thus able to realize effective interactions.

Kahwajy then offered several anecdotes illustrating her point that “people give to those who are ready to receive,” among them an account of the theft of her purse and its return. Kahwajy’s purse was stolen on a train trip from France to Switzerland by three pickpockets, one of whom, she later learned from the police, remained in her train car for seven minutes until the next stop. So when Kahwajy began to announce what she needed, declaring the words “I want my notes back,” the thief on her train overheard. She also repeated that she desired the thief to place her purse by a trash can at the next stop. Kahwajy’s purse, with its entire contents, appeared at the train station two days later. The reason she got her purse back, she told us, was that she asked only for her notes (what she truly wanted) and not her credit cards and other miscellaneous contents. Kahwajy explained that it’s a law of human nature that people give to those who are ready to receive and that effective communication is helping others understand your intent (what exactly you are ready to receive). When we communicate what we really, really want, we enlist people who understand our intent to be on our team and then successful interactions with others occur.

Following these surprising stories, a communication exercise allowed the staff to see that some types of responses can extend relationships while others close them down. Staff paired up for the exercise, with one partner making a request and the other answering either “No” or “Yes, but...” or “Yes, and...” We saw that only the “Yes, and...” response led to the ability to continue the conversation and allow for truly effective communication because it indicates an open and modifiable relationship.

Following her talk, Kahwajy fielded questions. Teachers asked questions about how her advice is applicable to our lives at Bing and how we can eliminate barriers to effective communication. She answered that we can use these techniques when communicating with our teaching teams, children’s parents and even the children; she also suggested that using the “Yes, and...” response with an open mindset can help eliminate our barriers to effective communication. She concluded by sharing her appreciation for our interest and insightful questions about her theories. Learning about Kahwajy’s theories energized us. We intend to use her techniques while working with children and parents and in working with our teaching teams.
Marisa (Middy) Casillas, a fourth-year Stanford graduate student in linguistics, her advisor professor Eve Clark, PhD, and Patrícia Amaral, PhD, an assistant professor at the University of North Carolina at Chapel Hill, investigated children’s acquisition of hedges last year and are currently conducting a follow-up study on this subject. Amaral had conducted a study looking at children’s understanding of the adverb “almost” at Bing Nursery School while a post-doctoral fellow at Stanford. Casillas and Amaral then decided to collaborate on a study to look further into the domain.

Casillas grew up in Walnut Creek in the East Bay. Part of Casillas’s interest in conducting research with children stems from being the oldest of four children and having the experience of taking care of her brother, who is 11 years younger. Casillas graduated from the University of California, Los Angeles, majoring in linguistics and psychology. She is athletic and enjoys sports. Her favorite is rugby, which she says could easily have been her third major in college, as she played it all four years. Casillas also enjoys baking, drawing, quilting and reading.

In this study, Casillas and Amaral focused on children’s understanding of “almost” and “sort of.” Casillas played a guessing game with 3- to 5-year-olds in which she placed a picture of an object in a box and then had a bear puppet peek inside the box and give children clues about the pictured object. In random order, the bear gave one of four descriptions as clues. The four descriptions were: “It’s almost a ______” (hedged frame); “It’s sort of a ______” (hedged frame); “It’s a ______” (unhedged frame); “In here there’s a ______” (unhedged frame).

Casillas then showed children four pictures and asked them to make a guess as to which of these pictures resembled the one inside the box. The children indicated their guess by pointing to one of the pictures.

The sets of pictures the researchers used examined the children’s abilities to understand hedging in two different conditions: “prototypicality” and “completeness.” Here’s how that played out when “butterfly” was the image hidden in the box. To test the children’s understanding of hedges given a prototypical choice, the four images shown were a butterfly—the prototypical object—a moth, a bumblebee and a praying mantis. The moth is considered a “competitor” as it shares many properties with the butterfly but is not a butterfly. The bumblebee and the praying mantis, both insects like the butterfly but bearing no close resemblance to it, are “distractors.”

To study their understanding of hedges when the hedge related to “completeness,” the researchers replaced the image of the moth with a picture of a cocoon with a partially emerging butterfly. Casillas recorded all the descriptions to ensure children heard the utterances in exactly the same length and tone from the bear puppet—which entailed an intricate set-up. The researcher placed a speaker inside the bear with a cord attached to an iPod she hid out of the child’s view.

The researchers hypothesized that if children understood the meaning of “sort of” and “almost,” they would be more likely to choose the non-prototypical competitor (e.g., moth and cocoon with a partially emerging butterfly) as opposed to the prototypical item (e.g., butterfly) and distractors (e.g., bumblebee and praying mantis) when they heard a hedged frame (e.g., “It’s sort of a butterfly”) in the clue. If children heard an unhedged frame (e.g., “It’s a butterfly” or “In here there’s a butterfly”), they should be more likely to choose the prototypical item. The researchers also predicted that there would be a developmental effect of the interpretation of hedges—that younger children would choose prototypical objects (e.g., butterfly) when they heard a hedged frame (e.g., “It’s sort of a butterfly”) as opposed to their older counterparts.

The results of this study showed that 5-year-olds responded in almost the same way as adults when they heard hedged phrases. Adults chose prototypical competitors (e.g., moth) 100 percent of the time; 5-year-olds did 75 percent of the time, whereas 3- and 4-year-olds did so less often. However, after reviewing the children’s response delays (i.e., hesitation time) and comments, the researchers found...
that 4-year-olds were at an intermediate stage in which they took nearly as much time when responding to hedged frames as 5-year-olds, even if they eventually chose the prototypical object. The researchers believe that this suggests that 4-year-olds are taking the hedge into account to some extent even though they have not yet fully grasped its meaning.

Casillas and Amaral also found the unexpected result that 3-year-olds appeared to clue into the length of the descriptions and treat long unhedged phrases as if they were hedges. The long unhedged frame (e.g., “In here there’s a butterfly”) was purposefully constructed to match the length of the hedged word/phrases to avoid potential reactions based on the length of the sentences alone since the other unhedged frame (e.g., “It’s a butterfly”) is two syllables shorter than the hedged ones. The researchers suspect that rather than cueing into the meaning of the lexical terms such as “almost” and “sort of,” 3-year-olds paid more attention to the length of the description.

In the follow-up study, the researchers use made-up objects created out of paper shapes and label them with made-up names (e.g., “hup,” “shan”) to eliminate the need for children to have prior knowledge of the target objects in order to respond correctly (e.g., to know that butterflies emerge from cocoons). Using these made-up objects enables the researchers to establish what is prototypical and what is complete to the children. The rest of the study is the same as the first one.

The researchers suspect that the results will be similar to the first study. Such results will provide additional support for the conclusion that children’s responses were based on their knowledge of and attention to the hedge phrases.

“Research at Bing is a pleasure,” Casillas said, and added that she has enjoyed interacting with the children. The children, who found her talking bear quite intriguing, have enjoyed her research too.

### Parent Events at the Bing Institute

By Andrea Hart, Teacher

The Bing Institute increased its programs for parents in its second year, 2011-2012. As part of its mission to foster a community dedicated to improving the lives of young children and their families, the institute offered a variety of events for parents: Coffee Talks, Study Groups and Parent Seminars.

Parent Coffee Talks are guided small-group discussions with an average of 18 parents taking part. These one-hour talks take place in both autumn and spring quarters during the morning and afternoon. They cover a variety of topics of interest as suggested by parents and teachers. Our six different Coffee Talk topics this year included:

- How Can You Support Your Child’s Adjustment to a New School Year?
- How Can You Help Your Child to Make a Friend?
- Food: Friend or Foe? Allergies and Young Children.
- What is the Role of Technology in the Lives of Young Children?
- Small Talk, Big Ideas: How do Speech and Language Develop?
- What is the Power of the Picture Book? Mirrors, Models and Mysteries.

With the exception of the talk on allergies, which was led by Stanford’s chief pediatric food allergist, these talks were led by teachers, parents of a currently enrolled child, or in one case, a grandparent. What an amazing community of professionals we have to draw from across our own community at Bing! From these events, attending parents have learned new strategies to support many facets of their child’s growth and development.

A second and new kind of parent event this year came in the form of our Parent Study Groups. Two study groups of 30 parents met once a week for seven consecutive weeks throughout the winter quarter. Each of these groups read Mind in the Making by Ellen Galinsky chapter by chapter and explored each topic in greater depth in small and large groups. Parents could talk about their experiences with their own children’s development and learning, and explore together how to best support growth. In addition, these groups each got to know one another over this seven-week span of time. After much positive feedback, we will continue study groups next year.

The institute has offered two evening Parent Seminars this year. In addition to “How to Talk with Children,” a staple topic offered at Bing Nursery School for many years, the institute offered a new topic: “Block Building: Constructing Skills for the 21st Century,” which has been a popular workshop shared with educators in past years. Both of these parent seminars were well attended and well received. These three different types of parent events, whether small or large, informal or more formal, have led to deeper thought and connection with members of the parent community at Bing. It is our hope to continue to support the institute’s mission by offering events to improve the lives of children and their families.

Please watch for next year’s parent events offered through the institute and join us at a seminar, coffee talk, or study group!
Bing Institute’s Offerings in the 2011-2012 Academic Year

Parent Events

Parent Seminars
• How to Talk with Children
  Presenters: Andrea Hart and Colin Johnson, Bing teachers
• Block Building: Constructing Skills for the 21st Century
  Presenters: Jennifer Winters, Bing director, and Todd Erickson, Bing teacher

Parent Study Groups
• Mind in the Making by Ellen Galinsky
  Leaders: Sarah Wright and Bev Hartman, Bing teachers

Coffee Talks
• How Can You Support Your Child’s Adjustment to a New School Year?
  Hosts: Jennifer Winters, Bing director, and Beth Wise, assistant director
• How Can You Help Your Child to Make a Friend?
  Hosts: Karen Yamamoto and Peckie Peters, Bing teachers
• What is the Role of Technology in the Lives of Young Children?
  Hosts: Nancy Howe, Andrea Hart, Stephanie Holson and Chia-wa Yeh, Bing teachers
• Food: Friend or Foe?
  Host: Kari Nadeau, MD, PhD. Lucile Packard Children’s Hospital, Division of Immunology and Allergy
• What is the Role of Technology in the Lives of Young Children?
  Hosts: Nancy Howe, Parul Chandra, Andrea Hart, Mark Mabry and Chia-wa Yeh, Bing teachers
• Small Talk, Big Ideas: How do Speech and Language Develop in Young Children?

Educator Events

Educator Seminars
• ReCycle, RePurpose, ReUse: Incorporating Found Materials for Creative Expression into the Early Childhood Curriculum
  Presenters: Nancy Howe, Betsy Koning, Stephanie Holson, Jasmine Dobbs-Marsh, Chia-wa Yeh and Mark Mabry, Bing teachers
• Inquiry With Young Children (for the Jumpstart program)
  Presenters: Beth Wise, assistant director, Quan Ho and Bev Hartman, Bing teachers
• Block Building: A Cornerstone of the Curriculum
  Presenters: Jennifer Winters, Bing director, and Todd Erickson, Bing teacher

Summer Sessions for Educators
• Developing Reflective Practice: Opening a Dialogue About Quality Early Childhood Education
  Presenters: Parul Chandra, Todd Erickson, Bev Hartman, Adrienne Lomangino, Mark Mabry, Kitti Pecka, Peckie Peters, Karen Robinette, Jennifer Winters, Beth Wise, Sarah Wright and Chia-wa Yeh, Bing administrators and teachers
• Basic Materials: A Foundation for Curriculum Design
  Presenters: Parul Chandra, Jasmine Dobbs-Marsh, Todd Erickson, Bev Hartman, Adrienne Lomangino, Emma Ludwick, Nandini Mukherjee, Kitti Pecka, Peckie Peters, Karen Robinette, Nancy Verdtzabella, Seyon Verdtzabella, Jennifer Winters, Beth Wise and Sarah Wright, Bing administrators and teachers

For more information about upcoming events, log onto http://bingschool.stanford.edu/institute.

Participants in two educator seminars gain hands-on experience with materials. From left: Head teacher Nancy Howe, far left, discusses ways to use materials found in nature. Participants share their experiences building with unit blocks.
Young children come to music activities with eagerness and attention. In exploring this world of music, how can teachers sustain children’s interest and enhance their cognitive development?

Participation in traditional children’s music is often the rule in the Two’s classroom. One might think that novel offerings in the music curriculum, such as singing new songs every session, would encourage interest. Contrary to this belief, we have found that repetition is key to children’s engagement in the music. Once songs have been introduced and learned, we begin to make musical extensions by adding small creative variations to sustain their interest. For example, as groups of children learn a shared repertoire of songs, we add small changes in tempo, subject, movement or instrumentation to create a new element. The individual suggestions of the children also help the teachers formulate the next step in sequential complexity, building off of the children’s interests and excitement over the musical experience.

We sang the song The Bear Went Over the Mountain from the earliest days in the afternoon Two’s class in the autumn quarter. Once the children mastered the original version, the next step was to change the “bear” to a sheep, a cow, or a horse that went over the mountain. This small twist was accompanied by the introduction of new puppet animals, all venturing over the same mountain. The children enjoyed the novelty of the different animals. From here, instead of continuing to change the animal element, we returned to the bear going over the mountain. Instead of “seeing all that he could see,” the traditional lyrics the children were expecting, the bear went over the mountain and saw “who he could see” or “someone” on the other side of the mountain. This “someone” was one of the children in the classroom, illustrated by a photo of that child. The bear, himself, was alternately a stuffed animal or a picture of a bear. In the game that evolved, the representation of “someone” brought excitement to the musical game. At first, it was hard for certain children to wait to see themselves in the game. However, they grew in patience and awareness of others as the game was repeated again and again. At this point, the song that at first was simple and repetitive evolved into a game that had the children excited and engaged each time it was played.

Later our classroom read The Bear Escape, a book about a bear that has an adventure with bees and honey. This book introduced movement possibilities as well as the use of different concepts such as under, through, up and down. Ultimately, this led the children to act out the scenarios and use their whole bodies in the “play.” This was a meaningful experience that not only used the melody and rhythm of the music, but also incorporated the social aspects of the group, movement dynamics, and an increased vocabulary acquired from the book.

Another musical game was called What’s In My Pocket? Using this book, which illustrates a hiding game, the teacher made up a song that asked the question, “Pocket, pocket, what’s in my pocket?” and gave the children a clue about the object placed in her own pocket. They sang eagerly and guessed over and over again. The same objects were used because the repetition gave security and comfort to the children when the items were predictable. To extend the song found in this book, the teachers wore an apron with pockets to play the game. All the children learned the song, played the guessing game and delighted in the outcomes.

The children themselves were another source of meaningful music. One child in the class taught us a movement song called Jumping Josie. We all learned the song which, like many traditional children’s songs, included a fill-in-the-blank segment. This song called for suggestions of movements, supplied by the children. We expanded this simple song to multiple movements, which increased body awareness, vocabulary, recognition of others and social awareness.

Classical music is a rich source for group games because it provides quality auditory experiences and acts as a springboard for creativity and games. This spring the music of Johann Sebastian Bach and his family played a big role at Bing. We danced to Bach’s Little Suite in April for music time. A minuet by Johann Sebastian Bach inspired bouncing in place. Some children used their arms to jump higher and then “fly” like birds. The jumping turned into rabbit-like movements for other children. The steady beat of a march by Carl Philipp Emanuel Bach provided movement centered on the lower body; lifting knees high and keeping time perfectly with a tempo. Galloping to a musette with a slightly syncopated rhythm by Carl Philipp Emanuel Bach was another activity the children enjoyed. These slight variations in rhythm helped to suggest movements, develop sensitivity to music and refine motor control. The persistent, steady beat of Baroque music was perfect for these young dancers, helping to connect them to the world of music and to each other.

When children have an opportunity to listen to good music, movement is the natural result. Whole body movement, which responds to the dynamics and tempo of the piece of music, can be modeled by an adult. Children then learn to create their own movements and can influence the experience for the group; they invest thoroughly and enjoy their achievement.
The Bing Times
By Adrienne Lomangino, Head Teacher, and Colin Johnson, Teacher

Exploring Motion on Inclined Planes

During the autumn and winter quarters, the children in East PM took part in an ongoing exploration of motion on inclined planes, using wheels, balls, gutters, tubes and planks on the hills of East Room. This activity demonstrated how play integrates children’s physical, social, emotional and cognitive selves. Children ages 3 to 5 scurried up and down the hills, following the movement of the balls down the inclines. They worked together to create different ramp configurations, revealing their emotions through quiet smiles and exuberant shouts. They observed closely, noting which wheels or balls went farther; and they made plans, such as how to make the ball travel farther, jump or go through a tunnel.

The exploration of motion on inclined planes moved indoors as children worked with materials on a smaller scale. They used wooden ramps, blocks and balls in the block area and on the patio. With the children working close together, the teachers could easily talk with them about their ideas, plans and hypotheses regarding the behavior of the balls and ramps. It also allowed for data collection experiences with teacher guidance. For example, after watching balls roll down ramps of different heights and hit a barrier at the bottom, children collected data about which ball traveled farther. On a large sheet of paper showing drawings of the different ramps, they used a sticker to mark the ramp with the fastest ball.

After children explored with the ramps, the teachers used them to create a new scenario for them to examine. With two ramps set up at different heights (one sloping down from atop a single hollow block and the other sloping down from a stack of three), children investigated the claim that balls roll faster on a higher ramp. The children collected data and shared it at story time.

Once the children demonstrated a clear understanding of the relationship between ramp height and speed, the teachers encouraged them to examine momentum. Not surprisingly, one question that captured their interest in momentum was, “Will the ball knock over the block at the bottom of the ramp?” Inside, they used golf balls and marbles to try to knock down a unit block and outside they used wheels of varying sizes to topple a hollow block.

When a ball rolling down a ramp failed to knock over a block, the children made intentional choices to change the ball’s momentum. They would either raise the ramp or select a heavier ball. Over time, children also grew more expressive about their plans for the next trial, even using such scientific sounding language as, “I want to test something.” For example, when a golf ball left a barrier at the bottom of the ramp, Jacob M. (4 years 9 months) commented, “Maybe we can change the number of blocks even higher.”

The children also grew more fluent at articulating their explanations for observed outcomes, as in the following examples:

**At the higher of two ramps, Adam (4 years 4 months) tries to knock a hollow block over with a small wheel. It does not work. He explains, “Because the big wheel is stronger. Because it has more power. I think it’s the size.”**

**Trevor (4 years 5 months) reasons, “Because it’s tiny…I need a biggest one.”**

**Teddy (3 years 10 months) uses a small wheel. It doesn’t knock the block over. He then tries a larger wheel, which works. “Because the big wheel has much more power.”**

**Anna (4 years 9 months) predicts that a ball from the higher of two ramps will reach the bottom first, “Because the top one has more power than the bottom one.”**

**Tobey (3 years 11 months) uses a set-up with three ramps in a line with a half-sized unit block (square) at the end. He releases a large marble that knocks the small block over. Tobey comments, “It was because that (pointing to the block) was not heavy enough to stay there.”** Teacher Adrienne suggests trying a unit block at the end. The marble bumps, but does not knock over the block. Tobey explains, “That was stronger than the little one.”

Other children gave similar predictions and explanations, with many attributing successful knockdowns to the strength or power of the rolling object.

Although the children’s explanations have not reached an understanding of momentum as the product of mass and velocity, they reveal an understanding that both how fast something is going and how heavy it affects its “power” or “strength.” Their descriptions are consistent with the view of momentum as relating to impetus, or the force that makes something happen. Synonyms for momentum in the Collins Thesaurus include “power” and “strength.”

Another set-up for examining momentum involved using two ramps that were raised on blocks at the outside and met on the floor in the middle, creating a “V”
shape. Children released balls from both sides so that they collided in the middle. The ball of greater mass pushed the ball of lesser mass back up the ramp. For example, when a marble and ping-pong ball collided, the ping-pong ball would travel back up the ramp it had just descended and fall off the end.

Eitan experimented with two short ramps of equal height. After Eitan tried using the ping-pong ball and golf ball, then a ping-pong ball and marble, he modified a set-up with longer ramps to make one end taller by adding three unit blocks.

_Eitan (4 years 4 months) predicted that the ball will “block it (knock the lighter ball off), but I don’t know because these are long ones (referring to the ramps).”_

In this instance, he demonstrated not only intentionality and analytic thinking, but also impressive metacognitive awareness of the limits of his own knowledge. He knew what he expected to happen from his previous observations, but attended to the fact that the ramp length might change the outcome and therefore viewed the outcome as uncertain.

As Eitan showed, children demonstrated their understanding of the relationships between ramp height, rolling object speed and momentum by manipulating the materials with remarkable intentionality and purpose across a range of experiences. The consistent language and reported strategies illustrate how they have internalized many of these concepts and how they are able to make connections among varied activities.

---

**Rocks**

By Mark Mabry, Head Teacher, in collaboration with the East AM Team

Children often remind us that wonder and beauty can be found in the simplest things. Anyone who has ever taken a hike with young children knows that their curiosity is piqued by hundreds of things along their not-so-straight line between two points. During the 2011-2012 winter quarter, the children in East AM shared their interest and joy in discovering the treasures that are literally under our feet: rocks!

**Beginnings**

A small group of children started a daily ritual of hunting and collecting small pebbles in our sand area. They would meticulously walk around the sand area, pausing here and there when they discovered a new pebble to be announced to their friends and put in their pocket. They became especially interested in finding what they regarded as “special” rocks, which were usually larger, smooth, colored pebbles. As they made these rock-collecting excursions, this fascination began to spread to other children.

**Sparking Interest**

Noting the growing curiosity about rock collecting that the children were demonstrating, the teachers decided to set out rock and mineral field guides and provided display boxes and panels for them to create a classroom rock collection. This allowed the children to share their discoveries, observations and ideas with the larger class, rather than simply focus on their individual pocketful of rocks and pebbles. The teachers hoped that this would help spread the enthusiasm about rocks, emphasize collaboration as a community value and provide a way to learn more about what was particularly interesting and intriguing to the children about rocks.

**Investigation**

Children were intent on finding better ways to locate rocks. It became difficult to find rocks in the sand, as most of the small ones had already been “mined.” They began using rakes, shovels and water to excavate harder-to-find rocks. They also discovered many rocks in the hard ground beneath the redwood trees, but found that these rocks were very difficult to unearth. They began using sticks to pry these rocks out.

After the children collected their rocks, they spent time describing and categorizing them, often looking through the guides to find names that seemed to match their specimens. However, they also generated their own unique rock names that described their real or imagined properties, e.g., a slippery flat rock was a “soap rock,” a shiny black piece of obsidian became a “plastic rock.” They also spent time creating displays that documented their findings, which, in turn inspired others to add their own contributions to the growing collection.

**Exploration**

In perusing the various guides and books on rocks, a few children became quite intrigued with the pictures they found of colorful gems and minerals and set their sights on finding some of them in our environment. In our ongoing discussions and in consulting with our resources, we came to the sad conclusion that it was unlikely that we would find faceted, polished gemstones in the Bing yards. As we researched more in-depth using the information in these books, the children found that gems often start as more mundane-looking rocks, but are polished to give them the beautiful color and shine seen in jewels.

One child in particular became fascinated with a page in a book that showed a set of birthstones; he was very pleased to learn that his birthstone was a beautiful amethyst. He kept lamenting that he couldn’t find a beautiful purple rock like this at school or at home. The most prom-

---

*Photo not available online.*

*Children trying to make the balls travel up the ramp.*

*Photo not available online.*

*Collecting and categorizing rocks from our yard.*
During the spring quarter, the West PM teaching team launched an inquiry to answer the question: How do we structure story time in a way that actively engages more children to share their thoughts and ideas?

Our goal was to increase active group engagement because, according to Stanford professor of education Linda Darling-Hammond, PhD, active group engagement leads to more active in-depth learning. Darling-Hammond explains the importance of active group engagement in the book *The Right to Learn*, *A Blueprint for Creating Schools That Work*.

The basic prerequisite for active group engagement is the ability to generate and share self-explanations. To generate self-explanations, a child needs to share his thoughts and explain his thinking. For example, a child may demonstrate how he made the clay flat, or show how she rolled paper to make a rocket, or explain why he used the masking tape instead of the Scotch tape. When generating these explanations, the child is not a passive listener. Rather, by generating and sharing self-explanation, she is engaging in active learning.

In March, the teaching team began to experiment with a number of elements that make up story time. Story time occurs at the end of every school session. During this time, the story time teacher invites children to participate in songs, share activities and listen to a story. After wondering how we could incorporate active group engagement in the daily practice of story time, we made a number of changes to the group’s seating arrangements and the structure of story time.

Traditionally, children sat audience style, facing the story time teacher. In this

---

**West PM Story Time: An Active Learning Opportunity?**

By Sarah Wright, Head Teacher
format, only a handful of the children would repeatedly and spontaneously ask to share their thoughts and explain their thinking to the whole group. Other children would often decline the chance to present. We wanted to see if more children would be willing to participate if we changed the seating arrangement.

The teachers first asked the children to gather in a large oval at the beginning of story time. Our hope was that facing one another would offer the children a chance to develop greater awareness of their peers and encourage more audience participation. In this oval formation, the children could see all teachers sitting on the floor modeling being part of the group. The facilitating teacher, who was orchestrating story time, was also part of the oval promoting a sense of equality.

We noticed, almost immediately, the children’s heightened awareness of each other. For example, as children were invited to share or explain their work, they would look around the oval rather than directly at the leading teacher. We also noticed more collaborative sharing. If a child had been collaborating with a peer in a game or on a project, both children tended to co-construct explanations during their contributions to the large group. They each contributed, either by supplementing the other child’s explanation or by answering the questions that their partner posed. Interestingly, children who were not so willing to share in the audience style model seemed more at ease with the oval format.

**Teacher:** “Evan, would you like to explain how you made the paper airplane?”

**Evan:** No. (Evan quietly bows his head and pulls his body back slightly.)

**Sahir:** I know. Evan folded the paper like this. Then he made the point.

**Evan:** No, no, you have to fold it corner to corner first.

**Sahir:** Yeah, Yeah. Then you make the points, right?

**Evan:** Yes. Then you fold in the triangles to make the pointed part.

This oval formation also increased the quality of the children’s contributions. In the audience style, a few children regularly asked to stand up in front of the group to show their work. “Can I show this at story time?” was a common request among these children. For example, there were several children interested in the process of creating rockets who continually requested to show their rocket designs. Their sharing initially focused on the best or fastest rocket. Showing the finished product was seemingly important. Once we switched to the oval seating arrangement and encouraged the children to explain their knowledge and expertise, we noticed the children describing more about the process.

For example, we encouraged the children to demonstrate paper rolling techniques. In the new seating arrangement, it was easy for the whole group to see and then comment or ask questions about the technique. As the children articulated their material selection, identified the different flying objects and their attributes and discussed the construction processes required to make them, this panel of “rocket experts” became known to the whole community and deeply immersed us all in their learning process.

With increased enthusiasm for sharing in this new oval format, the dilemma for the teachers was deciding who was chosen to discuss their work. This was not a typical “show and tell” session devised to offer all children their five minutes to present, rather this was a planned and co-constructed group experience. Our goal was to provide opportunities for group learning that were about process not product, that stemmed from the children’s interests, and that were purposeful and meaningful to this particular learning community.

Next, we decided to extend the co-constructed group experience by structuring the discussion. One strategy we tried was to collate the children’s ideas in a newspaper format. Throughout the week, the teachers gathered the children’s news with the purpose of sharing the content during story time. As the newspaper was read, the teachers encouraged a group discussion based on its content.

**Tuesday, April 3, 2012**

“Sparkles [classroom hen] laid an egg today, and I [Lucy] found it! It’s pretty dirty. Teacher I-Han is scrambling eggs at the art table, but not this one. The egg was in Sparkles’s coop.”

When this example was shared in the group, a number of children eagerly contributed their own questions and thoughts.

**Mira:** “Can we eat it?”

**Yuri:** “Do we need to wash it?”

**Avani:** “I saw Sparkles on the baby grass.”

**Carter:** “If Sparkles digs the baby grass, will the grass still grow?”

Another strategy we tried involved having the teachers report on the day’s events in all five teaching areas: the sand, the Back 40 [part of the play yard], the art part of the classroom, the literacy area and the patio. A large sheet of paper was available in each area for the children and teachers to report on the events of the day. The teachers shared their reports at story time to model presenting techniques to the whole group. The teachers also invited the children to clarify or explain particular reports.

Changing the seating arrangement from audience style to an oval format was only the beginning of our inquiry. We discussed the story time changes with the children in small groups during snack time. We also asked parents for their feedback, as they were invited to participate more in story time. Based on their feedback and our observations, the teachers carefully orchestrated each story time to engage the children, parents and teachers.

What were the results of our experiment? We found that with teacher facilitation and repeated experiences, these young children generated and shared self-explanations in a large group. In the oval seating arrangement, we noted more children willing to contribute as discussions unfolded. And so it appears the basic premise of active group engagement, the ability to generate and share self-explanations, has value in the pre-school classroom. By altering the format of story time to include time for structured group contributions, the entire classroom was able to share in this experience, creating a more-connected and cohesive learning community.
Geography is a way of thinking, of asking questions, and of observing and appreciating the world around us. It gives us the tools we need to move about in the world, to make wise decisions about our environment, and to relate more meaningfully to people from other lands and cultures.


Children’s understanding of geography is a natural outgrowth of their unfolding spatial awareness. Opportunities for open-ended play and concrete experiences give children a kinesthetic foundation for spatial understanding, a sense of place literacy.

Maps and globes have long been a part of our classroom play accessories. Children frequently reference laminated maps, using them on imaginary trips by boat, train or on foot. Maps are a springboard for rich imaginary play as children employ them to go on picnics, dig for treasure, etc. During the 2011-2012 winter quarter, teachers, children and parents in both the Center AM and PM classrooms embarked on a collaborative research project to further explore maps. We wondered what children already knew about maps, what they wanted to learn and what curriculum activities could be developed to support their growing knowledge.

Former head teacher Jane Farish met with both teaching teams to brainstorm ideas for an in-depth project on maps. Her intensive training with Lilian Katz, PhD, author of *Engaging Children’s Minds: The Project Approach*, made Jane an invaluable resource for our teachers. The “project approach” refers to a set of strategies that enable teachers to guide students through in-depth studies of topics.

Encouraging Analytical Thinking

Children’s interest in maps was reflected in their use of them as props for dramatic play, as well as their exploration of basic, open-ended materials to represent and test out their theories. Materials such as blocks, sand, water, paint and clay provided the perfect medium to explore maps in depth and represent their thoughts and ideas. As these explorations led to greater understandings, teachers posed research questions to develop analytical thinking such as “What is a map? What do maps tell us? What do you see on a map?”

Children enthusiastically responded to these questions at snack time and at story time:

**GABE**: (on the wooden train) I have a map. It means I travel. Anyone want to go to San Francisco? It’s that way.

**JULIE**: A map is something you follow if you don’t know where to go. I know where Mississippi is. I’ll show you on the map.

**HANLEE**: Sometimes my mom and dad need a map because there is a place that is really hard to find, so we need maps so we can find our way there.

**BEN**: I know that San Francisco is in our country and I know that New York is close to Connecticut. I saw *The Nutcracker* there. My grandparents live in Connecticut.

**ELIZABETH**: I’m making a map about where I live and my grandma lives.

**ELLIOT**: You can ride a bike and with a map it can show you which way to go: that way, or that way, or that way (pointing in many directions).

Experiential Learning Opportunities

Young children’s awareness of maps comes from exposure at home and school. For example, at home many children have seen their parents use maps to plan routes for trips, talk about maps or GPS devices they have in their car, or maps and globes. In our classroom, we have several large wall maps and a globe available for children to reference as a catalyst for discussion and sharing theories. Some children made maps of their route from home to Bing, graphing the information and sharing it at story time. Conversations followed about what they saw on their way to school, from stop signs and stoplights to railroad tracks and horse farms.

**TEDDY**: We go straight. I take the car. We take Escondido to Stanford Avenue and
then turn onto El Camino and we go straight, straight, straight until you hit Ravenswood. And then go across the train tracks or further and then take a turn after that onto Laurel or Alma, and then you go straight until you hit Willow Road and then you turn onto Claremont Way. And then you go around like this, like a U, and then my house is almost at the bottom of the U ’cause Claremont Way is kind of a U.

Zoe: I go where the bike stop is, then the gasoline station, and you go to the place where there are lots of fences, and then is my house.

Using Basic Materials
Open-ended materials like blocks, clay, sand, water and paint offered the children a variety of media to represent their understanding of maps. For instance, the children used unit blocks to create a scaled model of the Center classroom, as well as three-dimensional models of their homes. Building roads with blocks helped them gain an understanding of routes, directions, signs, location, scale, directionality (left, right, backward, forward) and measurement. The children used clay, sand and water to create rivers, lakes and mountains, which helped them understand topography. They also created maps through easel paintings and line drawings.

Physical activities and games are effective ways to explore spatial and geographic concepts with young children. At music time, the children used the whole yard to act out the familiar musical story We’re Going on a Bear Hunt. Their understanding of positional words and sequential direction were strengthened as they went “over the bridge,” “through the redwood forest” and “up and over the hill.”

Stanford Psychology 147 student Evelyn Arroyo enlisted the children’s help in making a large three-dimensional map of the outdoor play yard for her final student project. By creating trees and play equipment with recycled materials and placing them on the map, the children had another tangible and meaningful opportunity to represent their understanding of scale, location and direction.

Supporting Literacy
The children’s exposure to map vocabulary during the project enhanced their literacy, as did reading books that referenced maps. Some of the new words the children learned through their map explorations were roadblocks, cul-de-sac, intersection, overpass, key and legend.

Both AM and PM classrooms simultaneously read the story A Lost Button from Frog And Toad Are Friends and extended the narrative with a button hunt of their own. The children in each classroom made paper buttons and hid them in the yard. Then, for over a week, children in each classroom left notes and maps for the children in the other, indicating the buttons’ hiding places. This was a wonderful cross-classroom collaboration that built community and served as a rich cognitive task. In addition, children had opportunities to express their individual perceptions and interpretations through their “lost button maps.”

Understanding Symbolic Representation
Navigating throughout our school environment provided the children with concrete experiences that promoted a better conceptual understanding of maps. During trips to other classrooms, the workroom and the kitchen, the children drew maps of their route as they traveled. They labeled the places they visited and retraced their route for the return trip to the classroom.

In another situation, children became very interested in some curious black dots on the Stanford campus map. After further investigation, they discovered that the dots represented roadblocks. The children and teachers wanted to investigate further and see what the black dots actually looked like on the street. Several days later, a group of children and teachers took a field trip to identify the roadblock located on the map next to Bing. Children’s understanding of map reading and graphic symbols was enhanced as they discovered that the white round cement ballast outside our school was represented symbolically on the map as a black dot.

Milan: This is not black, it is a big white circle. (As he looked at the roadblock on Escondido Road)

Through our project, the children learned that maps and globes are tools to help us find where we are and where we are going. They came to understand that these objects employ symbols, that they are dependent on the concept of scale, that they display images from a “bird’s eye view” and reduce the size of an actual place.

Early experiences and exposure to their immediate environment, both at home and school, are important foundational steps in developing geographic literacy. As children build on their knowledge and understanding of the familiar, they are more able to grasp larger and more complex geographic and spatial relationships about the world and create a meaningful context for their place in it.
The sun is shining brightly, reflecting off the dew on the bridge and creating a sparkling, glittery image. The chicken appears under the bridge, pecking at the ground in search of food. The colorful scarves hanging from the pergola seem to be dancing in the light breeze and the effect is almost magical. This is West classroom on a typical morning. Any child would love to be a part of this, wouldn’t he?

Most days, of course, this is true. Children love the freedom of a play-based program: the open outdoor space; the ability to move and explore using their bodies; and the ever-changing natural environment. The classroom also offers them multiple options including painting, puzzles, dramatic play and block building. Children can choose what most appeals to them and have the capacity to make choices at their own pace. A nursery school setting like this seems idyllic. Why, then, do children on occasion experience some hesitancy about coming to school?

What our teaching team has discovered is that when children express reluctance about coming to school, it is sometimes because they are encountering interactions or relationships that feel unfamiliar and they are unsure about how to interpret or respond. The most effective strategies in guiding them through this uncertainty are to help children navigate the meaning of these encounters, develop language for expressing their feelings and offer proactive, positive support.

Here’s an example of how this worked out in our classroom this year as we helped two children, identified for the purposes of this article as Maggie and Joseph, feel more confident and competent.

Maggie is almost 4 and is accustomed to one-on-one interaction with her close friend. She has a strong personality, is quite vocal and has lots of enthusiasm. She also has clear ideas about what she wants to play and likes to direct her peers. Her friend, Joseph, has been very accommodating up to this point, but is now asserting himself more and is even finding other playmates. Maggie is frustrated because she feels that without Joseph, she may have no friends at school and is reluctant to come. Joseph is enjoying his new independence but is working harder in his new relationships because they are not as familiar to him. He also feels pulled by Maggie, who he still enjoys, but who wants to play in an exclusive relationship with him.

Some days negotiating the unfamiliar aspects of their maturing relationship feels like a lot of work. How can we help these children understand that making and keeping friends is a complicated process?

Learning how to make and keep friends is one of the primary developmental tasks of childhood. Developing and maintaining friendships, as we all know, is a dynamic process. Young children are developing skills to communicate, regulate their emotions and learn techniques for conflict resolution and cooperation, none of which is accomplished without effort and risk-taking. Conflict, or changes that arise within friendships, creates opportunities for adults to guide and model for children to learn and practice important social skills. Maggie, like all young children, is egocentric and hasn’t yet learned that others don’t always share her perspective. As Maggie learns that others have ideas to share, she can incorporate that into play and become a more skilled player. As adults, we need to help her understand these concepts (e.g., “Sometimes Joseph will want to play your game and sometimes he will want to play a different game. He gets to choose, just like you get to choose whether you keep playing your game.”) We need to support her in a non-judgmental way. Repeated practice by Maggie, along with reinforcement from peers and adults, helps her to acquire these skills.

Finding time to talk to a child like Joseph about the social challenges he may be facing will help him to clarify his feelings. A parent or a teacher can ask him to talk about positive interactions and challenges and listen with empathy. They can help him to understand how other children might be feeling and brainstorm possible solutions to challenges. This allows the child to develop resiliency, the capacity to see that conflict is a part of play and that the problems that arise can always be addressed. We are modeling a life-long skill that will be modified and expanded upon in every social situation to come.

Parents and teachers also need to realize the demands that this play places on children and ensure that they have enough “down time” to process it and play independently.

There will always be challenging days and days when children might feel anxious or hesitant about coming to school. Be assured that this is a part of normal development and that teachers are ready to face these challenges with parents. Repeated experiences to practice this skill make it easier. Creating a predictable routine and allowing children to move through this transition from home to school with the support of a caring teacher can help children to develop skills and resiliency, which will eventually make the process easier. Evaluate what is happening in children’s friendship arenas. While this can be an exciting time for children, it can be challenging as well. Most important, validate children’s feelings and instill in them the sense that they are competent and can be successful problem-solvers. Parents’ confidence in their children will encourage them to try harder when they meet new challenges.
On October 17, 2011, the entire Bing staff boarded a bus to see “The Wonder of Learning” exhibit at the National Steinbeck Center in Salinas. The exhibit displayed work by children from infant-toddler centers, preschools and primary schools within the municipality of Reggio Emilia, Italy. “The Wonder of Learning,” a traveling exhibit, changes venues every six months. It is the new version of the previous exhibit, “The Hundred Languages of Children,” which showcased the various learning styles of children and honored their competence in building their own unique understanding of the world.

The organizers of this new iteration intend to use the exhibition as a “piazza” where parents, educators and all citizens can gather to discuss education and its fundamental importance for society. Within this space, children’s project work was presented in a number of ways: as three-dimensional objects, videos, booklets, audio recordings, photographs and more.

As the teachers toured the facility, many small groups gathered to discuss what they were noticing and learning. There was a buzz of energy as teachers shared insights with one another. New ideas were formed and the excitement was palpable.

In one part of the exhibit, participants were encouraged to experiment with a myriad of natural materials. Sticks, stones, sand, leaves and other elements were made available for all who were lured in by their simple, open-ended appeal. Teachers were inspired by this display because they became the learners, gaining insight into the potential learning processes of the children at Bing.

When the bus departed at the end of the day, the teachers continued to share and discuss their impressions of all they had seen and of education in general. In the days, weeks and months after the event, natural materials made a resurgence in all parts of the classrooms back at Bing.

The opportunity to interact in the “piazza” allowed everyone a chance to reflect, share and construct new ideas. The effects of this collaboration have endured and won’t soon be forgotten.

Winter Staff Development Day
By Melissa Guevara, Teacher

Bing Nursery School’s winter staff development day this year, held on Feb. 17, launched an ongoing commitment to the study of play. Leading up to the winter staff development day, the staff met several times to brainstorm potential topics in early childhood education for an in-depth study for the entire school. Beverley Hartman, head teacher and director of the Bing Institute, and Sarah Wright, head teacher and manager of special projects, facilitated this school-wide inquiry.

The decision to focus on play as the subject of investigation was based on the interest of the staff. At the winter staff development day, each teaching team met to discuss which aspect of play they wanted to study in their classroom and then shared their thoughts with the rest of the staff. For example, head teacher Adrienne Lomangino and her East PM team discussed children’s use of props in their play. They considered how children use dramatic play materials with a specific function (e.g., telephone, tea pot) as well as more open-ended materials (e.g., corks). They also planned to offer a wide range of materials for prop-making, with the intention of looking for changes in how the children use the materials over time. Due to the many places that children potentially use props, they planned to focus on particular areas of the classroom to make data collection more feasible.

“We want to give our staff a voice and build a school where we are all in the same boat rowing,” said Jennifer Winters, the school’s director.

Following the group discussion, Barbara Henderson, PhD, and Daniel Meier, PhD, both professors at San Francisco State University, made presentations on teacher research and collaborative oral inquiry. (See pages 5-6 for more information.)

Later, two Stanford researchers updated the staff on their studies at Bing. Ally Kraus, lab manager for psychology professor Michael Frank, PhD, explained the research the Frank lab has begun on social referencing. The research explores whether children reference, or pay attention to, social cues like eye-gaze while trying to make sense of ambiguous situations when learning new words. For this study, a researcher presents two objects to a child and uses a made-up word for one of the objects. After saying the novel word, the researcher will look at one object as a hint, as if to say that’s the object that goes with the word. The researcher can tell where the child is looking—and whether he or she observes the hint—because the child wears a cap carrying a small camera that records what’s in the child’s line of sight.

Sarah Gripshover, a fourth-year graduate student in the lab of developmental psychology professor Ellen Markman, PhD, shared the results of her study, “Implicit Theories and Children’s Understanding of Nutrition.” This research looked at what young children know about food, nutrition and digestion and the impact of providing them information through a conceptual framework. The study found that young children can learn abstract concepts related to food as a source of nutrition. Children recognized the value of nutrients, the importance of eating a variety of foods and the role of blood in transporting nutrients through our bodies.

The day of reflection built community as teachers reinforced connections with those who work on other teams and in other classrooms. Although the inquiry into play is still in the brainstorming stage, the teachers are honing their skills and fostering their own professional development.
Spring Staff Development Day
By Jake Wachtel, Teacher

On a beautiful spring morning on April 30, the Bing Nursery School staff convened in the Tower House for a forum to continue the school-wide inquiry on play. Each teaching team shared how they had progressed since the inquiry began during the winter quarter. Beverley Hartman, head teacher and director of the Bing Institute, who led the forum, emphasized the great resources available to us as a result of the Bing staff’s diverse backgrounds in training and experience. Indeed, the presentations on different facets of play became a collaborative conversation as the teachers gave feedback and bounced ideas off of each other.

Since the project is in its early phase, the teaching teams used this opportunity to share their areas of inquiry as well as what methods and frameworks they will use to investigate their questions. Hearing the vast array of topics was exciting, from “How Conflict Enhances Play” (West AM), to “How do Teachers Influence Play Through Project Work” (East AM), to “Playful Preparation: Play as a Springboard for Developing 21st Century Skills” (Center PM), which was inspired by the speaker for this year’s Bing Distinguished Lecture, Tony Wagner. (See pages 3-5 for more information on the lecture.)

After the play inquiry presentations, East PM teacher Colin Johnson and head teacher Adrienne Lomangino shared a presentation they had given at the California Association for the Education of Young Children annual conference in San Diego in March. Their topic was “Uncovering Self-Regulated Learning in the Play-Based Classroom.” Self-regulated learning, the ability to actively guide one’s learning process through planning, monitoring and flexibly adapting to new concepts, has long been examined in the context of older children. Johnson and Lomangino designed a study to answer whether nursery school children demonstrate developing forms of self-regulated learning during play, and if so, in what forms, at what age, and in which activities.

To get their answers, Johnson and Lomangino videotaped everyday activities in the classroom and coded the videos based on a framework developed by British psychologist David Whitebread, PhD. That is, they would exhaustively pore over a video of say, a young child discovering how to unstick magnet tiles for the first time, counting specific instances of self-regulated learning. The results were unsurprising for anyone who has spent time with a self-regulated child—much self-regulated learning occurred across the age spectrum and through interactions with a variety of materials. More surprising is the frequency with which these instances of self-regulated learning cropped up—326 coded occurrences in 88 minutes of video, in fact. That’s nearly three times a minute, on average!

It was inspiring to hear how these two Bing teachers had taken on a more formal research project. The findings certainly validate the idea that even in seemingly simple play, a very rich and sophisticated kind of learning is occurring. This is particularly relevant to what we do here at Bing, because as a child-centered, play-based program, much of the day is designed for children to have time to set and follow goals and to choose their own activities.

After the presentation on teacher-directed research, three Stanford researchers presented their ongoing work. Tara Chiatovich, a fourth-year graduate student in education, explained her study examining the impact of adults’ teaching strategies on preschoolers’ motivation. Two other studies are looking at delay of gratification. Seminal research on this topic was carried out at Bing in the 1970s by psychologist Walter Mischel, PhD, who found that the ability of young children to defer an immediate reward now (e.g., a marshmallow) for a bigger reward (e.g., two marshmallows) later is connected to a raft of positive outcomes later in life, from higher SAT scores to better stress-coping mechanisms. This idea is now being investigated and refined right here at Bing. Bokyum Kim, a fourth-year psychology graduate student, presented on her research from a neurological perspective, while Kyla Haimovitz, a first-year graduate student in psychology, is looking specifically at beliefs about willpower as a fixed or fluid entity in relation to the ability to delay gratification.

Whether the staff was sharing the initial stages of school-wide inquiry, learning about research conducted by fellow teachers, or discovering some of the cutting-edge research being carried out by Stanford graduate students and their advisors, this staff development day was a success. It provided an opportunity for reflecting thoughtfully, honing observational skills and further developing the perspective that young children are competent individuals by acknowledging the demands and rewards of play.

A lion. By Alli K., 3 years 9 months

This is me and daddy at the library. By Judah B., 4 years 7 months

That’s an airplane. By Matthew H., 4 years 9 months
The Project Approach Workshop with Lilian Katz

By Stephanie Holson, Teacher

We overestimate children academically and underestimate them intellectually.
—Lilian Katz

Lilian Katz, PhD, co-author of Engaging Children’s Minds: The Project Approach, was in the Bay Area last October, lecturing at Stanford and conducting a workshop on the popular method in Palo Alto. Many of Bing Nursery School’s teachers were among the Stanford audience and two participated in a two-day workshop at the Learning Center in Palo Alto.

Katz is a past president of the National Association for the Education of Young Children and a graduate of Stanford University (PhD, 1968). She is a professor emerita of early childhood education at the University of Illinois at Urbana-Champaign, where as part of the Illinois Early Learning Project she was instrumental in developing the method in 1980s.

Her appearances were sponsored by the Palo Alto Advisory Committee on Early Care and Education and Stanford WorkLife.

The Project Approach

When using this approach, children and teachers choose a topic they would like to investigate. They discuss the topic, brainstorm questions about the topic and predict the answers to their questions. As children and teachers collect more information about the topic, they question each other’s findings and refine their understanding based on new information. Near the project’s conclusion, teachers guide children to discuss the collected information, reflect on their findings and decide how to share that information with others. Displays might include children’s models, photographs, drawings, stories, graphs, videotapes or performance pieces.

The Project Approach Workshop

In the course of a few hours, workshop participants undertook a project that may have taken weeks in a nursery school classroom. Participants broke into groups of four to five people. Each group chose a theme and researched it using a streamlined version of the method. Our group chose the theme “circles.” We broke into even smaller groups, each investigating circles in a different way: A few group members took photos of circles, others surveyed fellow workshop participants about circles and the rest counted all the circles they could find. We then regrouped, reflected on what we had learned and created a display to share what we had found collectively.

Going through the project approach with a group of educators with diverse ideas, ages and backgrounds enabled us to quickly deepen our understanding of the method. It was extremely helpful to be able to discuss questions like “What makes a good project?” “How do you know when to end a project?” or “How do you know which direction to take a project?”

Bing Nursery School and the Project Approach

If formal instruction is introduced too early, too intensely and too abstractly, the children may indeed learn the instructed knowledge and skills, but they may do so at the expense of the disposition to use them.
—Lilian Katz

Project work at Bing and project work following Katz’s approach both rest on the assumption that children come to school eager to learn. They will learn on their own through a mixture of first-hand observation, hands-on experience, systematic investigation and personal reflection. Teachers’ role is to facilitate and support this interactive process. Since students are learning collaboratively, social and emotional skills are as important as academic skills and knowledge.

As parents and teachers of preschoolers know, young children are natural investigators. When children work on projects of interest, they become active learners: predicting, examining, listening to others’ ideas and findings, arguing their stance, and possibly re-evaluating their own understanding.

Like the curriculum at Bing, the Project Approach is negotiated between teachers and children, as opposed to being handed down. Teachers do not simply decide what ideas to give to children; rather, they work with children to explore their ideas and examine their world. This gives children a sense of empowerment and also increases their engagement and interest in learning.

Another similarity between Bing’s curriculum and the Project Approach is group collaboration. Through group collaboration, students explore each other’s strengths, interests and perspectives; building social and emotional skills while concurrently building cognitive skills and knowledge.

Seoul National University International Symposium


Pictured at left (left to right): Sinae Han, vice director, Seoul National Multicultural Education and Research Center for Children; professor Soon Hyung Yi, the Seoul center’s director; Jennifer Winters, director, Bing Nursery School at Stanford University; and Minjae Bae, teacher at Bing.
Learning and the Brain Conference: Preparing Future Minds

By Beverley Hartman, Head Teacher and Director of the Bing Institute

“Preparing 21st Century Minds: Using Brain Research to Enhance Cognitive Skills For The Future” was the theme of the 30th Learning & the Brain conference. An impressive line-up of over 50 scientists from leading universities shared their research, observations and insights to predict the challenges and opportunities for education in the quest for effective learning and teaching practices. Approximately 1,600 educators attended the meeting in Boston Nov. 18-20, 2011.

What does an educator from Bing Nursery School take away from an experience such as this? The speakers’ presentations related to a broad spectrum of educational settings, but they all offered insights on what is developmentally appropriate for young children. It seems that early childhood educators’ greater attention to child development theory sets the stage for learning opportunities that are sometimes limited in schools for older children. The importance of play, which is emphasized at Bing, was promoted by many of these leaders. The skill development highlighted as important by many speakers was in alignment with developmentally appropriate early childhood education practices. Child-centered, open-ended activity, such as what is practiced at Bing, is compatible with the concepts shared in the presentations.

Tony Wagner, EdD, Innovation Education Fellow at the Technology & Entrepreneurship Center at Harvard University, identified skills for the 21st century by first speaking to business leaders to determine the qualities they look for in the workforce. These skills include critical thinking and problem solving; collaboration across networks and leading by influence; agility and adaptability; initiative and entrepreneurship; effective oral and written communication; accessing and analyzing information; curiosity and imagination. He also suggests that a high level of engagement will lead to academic achievement, employment and better citizenship. Wagner thinks that play is essential and can lead to passion and purpose. The focus of education has moved from what information students have to their ability to use the knowledge effectively. As Wagner seeks to redefine educational excellence, one of his suggestions is to “develop strategies for teaching and assessing the 3 C’s: critical and creative thinking, communication, and collaboration in every class and at all grade levels.” Wagner describes the importance of trust and respect, the opportunity to act upon intrinsic motivation, connecting (as well as collaborating) with others and the ability to ask good questions as key elements in the future of education.

On the last day of the conference, another professor from Harvard University, Howard Gardner, PhD, described the five kinds of minds he thinks will be important in the future: disciplined, synthesizing, creating, respectful and ethical. The disciplined mind masters a profession and has the capacity for continued independent growth. The ability to determine what is important information and to organize the content to make it useful will be a highly valued synthesizing mind, especially with our access to vast quantities of information. Those taking on risks and operating outside of convention may develop the creating mind, achieved with cognitive ability as well as natural inclination. The last two minds go beyond cognition and into character as the respectful mind works toward understanding, perspective taking and quality interactions with a diverse population and the ethical mind requires intention and purpose for the greater good. Gardner thinks that development of the full complement is ideal. This concept took the conference to the next level because we moved beyond cognitive skills to the development of the whole person. This includes not just what we know but what we do and why as a higher aspiration.

The intensive two-and-a-half day program was energizing and inspirational, and the potential the research holds for education is exciting. Early childhood educators are in a unique position to utilize these concepts because we have the opportunity to apply the science being generated about teaching and learning. Our current best practices align well with the challenges of preparing future minds. It is humbling to recognize how much we have to learn and at the same time exciting to know that teachers of young children have a strong foundation, based in our training in theories of child development, to respond to the challenge. The tradition of a play-based, child-centered program, such as the Bing philosophy, serves as a solid base for the next steps in our educational journey. There is so much more to investigate and question. These scientists use their research and leadership to inform educators and translate the findings into practice and policy for the improvement of learning as we prepare future minds.

Keynote addresses included:

- Teaching, Learning and Leading in the 21st Century by Tony Wagner, EdD, Harvard University
- Training Brains: Improving Behavior, Cognition and Neural Mechanisms of Attention in Lower SES Children by Helen J. Neville, PhD, University of Oregon
- The Imperative for Teaching Creativity and Innovation in Schools by Charles K. Fadel, MBA, (Visiting Practitioner) Harvard Graduate School of Education
- Creative Brains: Maximizing Imagination and Innovation in Schools by Shelly H. Carson, PhD, Harvard University
- Shine: Using Brain Science to Get Imagination and the Best from Your Students by Edward M. Hallowell, MD, (former faculty) Harvard Medical School
- Five Minds for the Future by Howard E. Gardner, PhD, Harvard Graduate School of Education and Harvard University
- Critical Thinking and 21st Century Skills by Daniel T. Willingham, PhD, University of Virginia
- Alone Together: A Meditation on the Future of Teaching and Learning in the 21st Century by Sherry Turkle, PhD, Massachusetts Institute of Technology
Learning and the Brain Conference: Promoting Happier and Healthier Learners
By Rinna Sanchez-Baluyut, Teacher

Using brain science for happier and healthier learners was the focus of discussion at the Learning & the Brain Conference in San Francisco February 2012. The Learning and the Brain conferences provide the latest research on neuroscience and its impact among interdisciplinary professionals in education, research, and technology. The presenters at the February conference provided immeasurable amounts of valuable information on understanding learning and development.

One of the keynote speakers in the conference, Daniel Siegel, PhD, clinical professor and co-director of The Mindful Awareness Research Center, University of California, and co-author of The Whole-Brain Child: 12 Revolutionary Strategies to Nurture Your Child’s Developing Mind, Survive Everyday Parenting Struggles, and Help Your Family Thrive (2011), discussed strategies to nurture children’s developing mind. Siegel emphasized that as educators, we need to connect with our students, first with the right brain giving special attention to personal meaning (e.g., touch, tone of voice, facial expression, empathy) and then later with the left brain (e.g., solutions, words, planning logical explanations, boundaries) in order for children to make connections in the learning process. He asserts that relationships shape our mind and motivate the whole learning system. Siegel encourages teachers to focus on collaboration and to foster relationships in the classroom instead of individualism and competition.

Another keynote speaker, David Walsh, PhD, professor at University of Minnesota and author of Smart Parenting, Smarter Kids: The One Brain Book You Need to Help Your Child Grow Brighter, Healthier and Happier (2011), talked about the negative impact stress and anxiety have on concentration, learning and memory, and the positive impact of feeling connected. According to Walsh, for maximum learning, it is essential for children to feel comfortable, safe and connected. The most important time to connect with children in the classroom is the first few minutes before class, he said, and described four key ways to connect, which he called “four at the door,” in reference to name, eye, hand and heart. He said that greeting the child by name may be one of the sweetest sounds in the world for a child to hear. Making eye contact with the child allows the child to feel valued and acknowledged. Walsh added that touch (e.g., giving a high-five, a pat) and associating something personal with the child (e.g., trips) assist in creating a personal relationship. According to Walsh, we never lose the need for connections; stress and anxiety occur when they are lacking. Feeling connected enables children to effectively use their brain’s cerebral cortex, which is where information processing takes place. Additionally, Walsh mentioned the importance of exercise and sleep for the development of young children’s minds. It is imperative to get our children moving, he said, explaining that movement and exercise assist in producing dopamine (increases happiness), serotonin (regulates mood) and norepinephrine (releases energy). Furthermore, children need a substantial amount of sleep to consolidate and reinforce their learning.

Happiness is the foundation of success. That was the message from another keynote speaker, Christine Carter, PhD, sociologist and happiness expert at Greater Good Science of the University of California, Berkeley and author of Raising Happiness: 10 Simple Steps for More Joyful Kids and Happier Parents (2011). Carter maintained that when we pressure children to achieve, we dull their emotional intelligence and make it difficult for them to be happy. Therefore, Carter suggested motivating children to use the growth mindset, which emphasizes hard work, strategy and effort in developing children’s abilities, and discussed Stanford University psychologist Carol Dweck’s research showing that the growth mindset strengthens children’s resilience and increases their love for learning. Carter indicated that children with the growth mindset are happier, more optimistic, enthusiastic, loving and compassionate and engage in deeper learning. Additionally, Carter emphasized the importance of practicing gratitude with children. As parents and educators, we need to think of gratitude as a skill that can be developed and practiced, she said. Carter believes that gratitude is an incredible social emotion that increases our ties with others, increases our self-worth and thus, makes us happier. Positive emotions have a physiological effect and break negative emotions, thereby increasing happiness. Furthermore, fostering a culture of kindness makes us considerably happier and healthier. Carter adds that acts of love, generosity and kindness stimulate serotonin (anti-depressant) and boost the immune system.

In creating a culture of happiness, Carter suggested helping children broaden their “giving” vocabulary (for example, giving, gratitude, forgiving, celebrating). Ask children questions to extend their thinking: “What are three things that you’re thankful for today?” “What was one thing that you did today that was kind?” “What was one thing that others did for you today?” As Carter asserts, “It is not happy people who are thankful…it is thankful people who are happy.”

This Learning & the Brain Conference was truly an enriching and inspiring experience that rejuvenated my passion for learning and teaching. I am looking forward to applying all that I learned.
The Innovative Learning Conference: New Paths to Learning
By Nancy Howe, Parul Chandra and Chia-wa Yeh, Head Teachers

Internationally prominent experts in education, neuroscience, gaming, design thinking, and learners with special needs spoke at The Nueva School’s biennial Innovative Learning Conference, held Oct. 20-21, 2011. The event, hosted by the leading San Francisco Bay Area independent school, attracted over 600 policy makers, parents and educators, including three teachers from Bing: Parul Chandra, Nancy Howe and Chia-Wa Yeh.

On the first day of the conference, designated as “Educator’s Day,” master teachers gave dynamic demonstrations and tours of the campus. Former Bing teacher and current Nueva pre-kindergarten teacher Carolee Fucigna gave a tour of her classroom and talked about the pedagogy of a “negotiated curriculum,” in which children and teachers engage in a dialogue to construct their knowledge. Teachers act as co-learners and facilitators as well as resources for knowledge.

Nueva staff offered additional workshops on innovative approaches and programs as well as roundtable discussions on current topics in education. Nueva math teacher Peter Koehler, PhD, led a hands-on workshop entitled “‘A Flower in Stone’ or the Mystery and Beauty of Nature’s Art and Math.” Koehler encouraged participants to explore mathematical patterns as they occur organically in nature, such as the fractal patterns of a Romanesco cauliflower.

Nueva teachers Kim Gitnick, Elizabeth McLeod and Rebecca Newsom led a presentation on “Reflection and Mindfulness in the Elementary Classroom.” They taught that mindfulness is a muscle that can be exercised: The more we practice, the better we get at it. Reflection, an important component of mindfulness, is the ability to be able to think about a prior experience or thought. It is not the experience itself but the ability to reflect on one’s experience that is key to mindfulness. The presenters demonstrated ways to cultivate mindfulness in the classroom for all kinds of learners: guided visualizations, use of listening skills, reflection and going deeper. They explained that students benefit from direct instruction on how to slow down, experience the present moment and reflect on their experiences. When children have opportunities to write about and express their daily challenges, successes and wonderings, they develop self-awareness, increased attention, empathy and compassion.

Kim Saxe, director of Nueva’s I-Lab (Innovation Lab), led a workshop entitled “Yes, They Can! Enabling Students to Better the World” with a panel of Nueva alumni. The workshop described how eighth grade students, with the guidance of a mentor, created, researched, developed and managed a project, from conception to completion, over the period of a year. Their projects ranged from a website to divert excess food by connecting restaurants, farms, cafeterias and grocery stores with homeless shelters and food banks, to the construction of a greenhouse for a school garden. A self evaluation at the end of the project gave students the opportunity to articulate not only their project’s process, but the life-changing personal transformation they experienced in developing a project to better the world.

Several presentations focused on the special needs of gifted students, including the exceptionally and profoundly gifted, as well as gifted children with Asperger’s or learning disabilities. Presentations included “Differentiating the Curriculum for Exceptionally and Profoundly Gifted Students,” by Mirasca Gross, PhD, and “Twice Exceptional Learners: Gifted Children with Asperger’s Syndrome,” by Dale Jacknow, MD.

The second day’s sessions included Michael Thompson, PhD, psychologist and author of Raising Cain: Protecting the Emotional Life of Boys, who presented on “The Impact of the Loss of Free, Undirected Play in Childhood.” He invited attendees to reflect back on a time in their childhood when they played freely with friends, coming up with their own games and rules. Unfortunately, this type of play, in which children engage with one another with little adult direction, has gradually disappeared in the last decades. This is due to factors such as loss of neighborhood, global competition to succeed academically and the rise of organized sports. Thompson encouraged the attendees to advocate for play and create and protect environments for it to take place. “I don’t see children losing the capacity to play,” he said. “When they are given the time and space to play, they quickly re-invent it.”

John Ratey, MD, associate clinical professor of psychiatry at Harvard Medical School and author of Spark: The Revolutionary New Science of Exercise and the Brain, presented “Learn to Move—Move to Learn,” an excellent complement to Thompson’s talk on play. How does exercise/movement relate to the brain? “Thinking is the internalization of movement,” said Ratey, citing a neuroscientist. He explained that exercise, in particular aerobic exercise that elevates heart rate, changes brain chemistry and improves attention, memory, motivation and mood regulation. It also promotes the growth of new brain cells, increases brain activity and prepares individuals to learn. Research with mice showed exercise increases the expression of brain-derived neurotrophic factor, a protein that Ratey calls “Miracle-Gro for the brain”—a powerful brain fertilizer.

In turn, physical activity improves neuroplasticity by helping brain cells grow and stay alive. “Exercise is probably the best thing that we know of to boost neuroplasticity and to parse information and to put things together,” he said. Is there evidence that exercise indeed enhances students’ learning capacities? High schools in Naperville, Ill., demonstrated the strong effects of daily fitness-focused exercise, which not only helps their students to be fit but also improves their academic achievements. Ratey also echoed Thompson’s advocacy for play, which he sees as an essential nutrient for the brain. More information

By Braden B., 4 years 7 months
on the effects of exercise on brain function and examples of schools that adopted fitness-focused physical education are available online at www.sparkinglife.org.

Both Thompson’s and Ratey’s talks reaffirmed Bing’s philosophy on the value of play and the abundance of time children need to engage in play. The freedom of movement children enjoy at Bing, both indoors and outdoors, fosters physical activities such as climbing and running up and down the hills in the play yard, which promote brain functions.

The concept of design thinking, as a protocol for solving problems and discovering new opportunities, played a large part in the conference. Executive director and co-founder of Stanford University’s d.school, the Hasso Plattner Institute of Design, and Bing parent, George Kembel, joined Kim Saxe in a discussion about “Design Thinking: Creating Tomorrow’s Innovators.” They described how design thinking has the ability to develop empathetic, collaborative and experimental mindsets in students, so that they can tackle problems they haven’t seen before and have the confidence in their ability to innovate — important skills needed for the changing landscape of the 21st century.

There was also an informal “Fireside Chat on Design Thinking” with David Kelley, founder of IDEO, an influential product design firm in Palo Alto. Kelley is a professor of mechanical engineering and head of the d.school at Stanford University and a Bing alumni parent. He and Kim Saxe shared stories about the success of “failures” that were incredibly informative and inspiring.

The day also included a talk on “Re-thinking Learning” by Salman Khan, founder of Khan Academy, a free, online education resource that attracts over two million unique users each month. He provided insight into the history and evolution of the academy, from its humble origins as a means to tutor his cousins with math videos sent over the Internet, to its present iteration, which is revolutionizing the world of education.

K.R. Sridhar, PhD, the principal co-founder and CEO of Bloom Energy, presented on “The Three R’s for the Innovation Generation: Risks, Rewards and Resilience.” He believes that, both in entrepreneurship and education, the need to stretch outside the comfort zone and the resilience to learn from missteps and setbacks is essential to climbing new heights.

John Seely Brown, PhD, author and independent co-chairman of the Deloitte Center for Edge Innovation, gave a presentation on “Cultivating Imagination for a World of Constant Change: A New Culture of Learning.” He spoke about embracing change. The tremendous changes that are shaping how we learn and live require new dispositions, a new point of view and a new way to be. He also pleaded the case for play. “Bring back play for a world of constant change. Culture emerged out of play, not the other way around.” Finally, he spoke of reimagining. “Imagine a new state, then find creative ways to invent it.”

**CAEYC Conference**

*By Colin Johnson, Teacher*

Early childhood education is a field rich with important and widely varied issues. Nowhere is this demonstrated as comprehensively as a professional conference for early childhood educators. In March 2012, Bing teacher Adrienne Lomangino and I made the trip to San Diego to attend the annual conference and exposition hosted by the California Association for the Education of Young Children. An affiliate of the National Association for the Education of Young Children, the state-wide event touched on everything from local policy issues to new ideas for classroom activities, from antibias education to developmentally appropriate uses of technology, from designing natural outdoor environments to supporting children’s cognitive development through art experiences.

Adrienne and I also presented at the conference, introducing a new and exciting topic in our workshop, “Uncovering Self-Regulated Learning in a Play-Based Classroom.” The presentation addressed the teacher research project in which we have been involved in for over a year, introduced our interests and described our intentions, methods and findings. Distinct from traditional educational research, teacher research is undertaken by educators, with the goal of not only learning more about children’s development, but also of improving local classroom practices. (See pages 5-6 for more information.)

Educational researchers describe self-regulation as the capacity to plan, guide and monitor one’s learning behavior. Self-regulated learning hones in on how children recognize and direct their own cognitive activity during a task by identifying goals, monitoring progress, controlling for obstacles and evaluating their successes. By observing children’s self-regulated learning in play, our study demonstrated how intentional, thoughtful and cognitively flexible children are, even from a very young age — younger than most previous studies have indicated (e.g., Boekarts, 1995; Schunk, 1990; Schunk & Zimmerman, 1994). As teacher research (also known as teacher inquiry) is quickly becoming a pillar of early childhood education, Bing teachers are thrilled to begin sharing their own contributions. (See page 20 for more information.)

While the attendees of many larger conferences include policy makers, researchers and teacher educators along with early childhood practitioners, the attendees of CAEYC were mainly teachers and administrators looking to improve their own practices. Curiosity and enthusiasm defined the tone of the conference and illustrated the continuing interest in professional development common to so many educators. At Bing, we are proud to participate in this growth, both as learners and presenters.
Kindergarten Information Night
By Nandini Mukherjee, Teacher

Bing Nursery School holds Kindergarten Information Night every year to ease the journey into kindergarten for parents and their children. The evening event features a panel of experts that includes principals and teachers from neighboring elementary schools, local pediatricians and teachers from Bing. The parents get an overview of a day in kindergarten, teachers’ expectations and behaviors typical of 5-year-old children. This year’s event was on Dec. 6, 2011.

Lisa Chamberlain, MD, a pediatrician at the Lucile Packard Children’s Hospital was our first speaker. Chamberlain, an alumni parent, described five as a glorious age, when children have just started to have a mind of their own, which leads to interesting conversations. She encouraged parents to schedule their child’s 5-year-old check-up with the pediatrician soon after their birthday. She gave tips for helping children learn and function well in their new environments, including monitoring children’s eating and sleeping routines. As children become independent in making their own food choices during recess and lunch, parents need to guide them to make choices that are healthy. Children at this age should get 10 to 12 hours of sleep per day. When children wake up on their own in the morning, it indicates that they have had enough sleep. She advised parents that screen time for this age group should be limited to just an hour each day. Parents may notice a change in behavior patterns due to stress and pressure. During such times, it is important for parents to model how they cope with stress themselves. Parents can talk to children about their past experiences and how they cope with stress and pressure as adults and help their child to learn different strategies. These may include taking walks, listening to music, journaling (drawing, rather than writing, at this age) and having alone time.

Tantrums and breakdowns are part of growing up and can be teachable moments.

Mary Pat O’Connell, principal of Nixon Elementary School, stated that during this transition, one of the main goals for parents is to maintain their child’s love for learning and the joy of going to school. Teachers and parents, in partnership, can make this transition happy and successful for the child. Parents need to remember that learning is not a race and that every child learns at his or her own pace. It is important to support each individual child’s style of learning so that school becomes an interesting and enjoyable place. She encouraged parents to become engaged in their community schools as a means of easing the transition for the children. Give children time to adjust to their new environment, which will allow them to flourish.

Danae Reynolds, Escondido Elementary School’s principal, explained changes in the kindergarten cut-off date that go into effect in 2012. A new California law requires children entering kindergarten to be 5 years old by Sept. 1, instead of Dec. 2. That change will be phased in incrementally, Reynolds said. The cut-off will be Nov. 1 in 2012, Oct. 1 in 2013 and Sept. 1 in 2014. Of note to parents of children who miss the cut-off date this year: Palo Alto Unified School District is adding a transitional kindergarten class for children with birthdays between the cut-off date and Dec. 2. She encouraged parents to attend some of the school events that take place before the academic year starts to help familiarize children with their new environment. Getting to know some of the families and spending time with them over the summer in the school yard are some ways parents can help children feel at ease with the upcoming transition.

Judy Harrier and Stephanie Han, kindergarten teachers at Nixon, said the common parental question, “Is my child ready for kindergarten?” can be best answered by the child’s preschool teacher. They see a diverse range of skills and capabilities among the children in their classes and strive to guide each child individually. Their goal every year is to make each child’s experience at school fun. Han also emphasized that the way parents feel about their child’s school is reflected in the child’s attitude toward school.

Bing teachers Peckie Peters, Todd Erickson and I-Han Liang also gave some pointers. If parents pay attention to both a child’s strengths and areas in need of support, said Peters, they, along with the teachers, will find opportunities to help him grow. Navigating three hours of school involves a lot of hard work for a 5-year-old, added Peters, so when they come home they will be tired. Parents can support children by allowing them quiet time during those first couple of weeks. Erickson spoke from his own experience with his daughter about how getting involved in dramatic play with her gave him an insight into her day at school. He also encouraged parents to give children unstructured time as much as possible during this transition. Liang gave them a key perspective to keep in mind when applying to private schools. Children sometimes are not accepted into private schools, not because the child is not ready, but because the school is looking for something very specific for their own community.

The panel of experts then answered some questions:

**How are the budget cuts going to affect our schools?**
Budget cuts will be hurting all districts, however, specifics have not yet been released. Palo Alto continues to work on keeping the class size small.

**What does a day in kindergarten look like?**
A typical day has routine morning meetings where children come together in a large group to discuss the calendar and weather and teachers assign children activities. The meeting is followed by work in math and language centers, story time, recess, writing, another meeting and then goodbyes. As children grow over the year, activities change. However, the basic structure of the day stays the same. Children also have choice time, which helps them to work together and learn to regulate and organize themselves.

**How can I help my child to read?**
Reading to and with your child helps improve their abilities. Allowing children to do their homework independently also helps promote reading skills.

**Can we visit our neighborhood schools?**
Palo Alto posts dates to visit schools online.
These dates occur before the private school application deadlines.

What are some signs that my child is not ready for kindergarten?
Children who cannot follow routines, have trouble with transitions or struggle with negotiating with peers may not be ready.

Should boys be held back (due to concerns such as immaturity and readiness)?
As long as children have a peer group, they will do fine. Holding boys back does not always help, as they may find it harder to get into a peer group. When boys are in high school, earlier physical maturity than their classmates can be awkward.

Are cut-off dates hard deadlines?
Yes, though at times it is hard to follow the guidelines, especially in cases where children are coming from out-of-state schools. Principals use their own judgment, in these cases, to place a child in a grade level. In all other cases, grade level is decided by birthdates.

What are the sources of children’s stress when they start kindergarten?
The new environment, new peers and new routines can give rise to stress. Going to kindergarten is like taking on a new job.

---

**Teacher Training from Bing to Washington, D.C.**

By Parul Chandra, Head Teacher

This past November, I was excited to lead a day-long professional development workshop for more than 20 teachers and administrators at Commun-Kids Preschool in Washington, D.C. The primarily play-based language immersion preschool teaches in Spanish and French, and strives to strike a balance between play and didactic language learning—which can be a challenge. The school, which has two locations, is in its third year of operation.

Because the school’s administrators recognize Bing Nursery School's expertise in play-based education, they invited me to have a dialogue with their faculty about the value of the “gift of time,” which in practical terms means giving children in our half-day program two hours of uninterrupted time to explore their environment and choose with which children and materials to play. They also asked me to talk about using what we call “basic materials”—for example, blocks, paint, sand, water and clay—to enhance play in the classroom.

On my first day at the D.C. center, I prepared for the workshop by acquainting myself with their approach—observing teachers in the classroom and attending team meetings. The next day, through discussions, video demonstrations and analysis, we focused on the following topics: effective techniques to guide children’s behavior, the importance of giving children sufficient time to play and explore using materials to express their ideas, and the value of basic and open-ended materials, in particular, clay, for creative expression.

Since our session, I have learned that changes are afoot. The faculty have had lengthy discussions about the main points I presented. This led the administrators to gather suggestions on how to adapt the use of basic play materials in their classrooms, and then present these to the entire faculty. As a result, the school purchased clay and additional blocks, set up several basic materials stations, and now dedicates one hour each day to free play using basic materials. The teachers have also put into practice strategies to help the children express themselves, problem solve and work cooperatively with each other. The children have responded very positively.

I was inspired by engaging with this dynamic group of educators. Their knowledge and passion to better the children’s lives was evident. I came away with a deeper understanding and respect for the complexity of their work and commitment to their mission.

---

**Visitors from Abroad**

From left: Eight early childhood educators and administrators from the Victoria Educational Organisation in China and Hong Kong visited Bing Nursery School in October 2011. Among those pictured are Maggie Koong, chief principal of the organization (sixth from right), and Bing staff Jennifer Winters, director of Bing (fourth from right), Beth Wise, assistant director (fifth from right), and Chia-wa Yeh, head teacher (second from right). Sixteen administrators and educators from the Poppins Nursery School in Japan visited Bing in November 2011. Among those pictured are Noriko Nakamura, president of Poppins Corp. (back row, sixth from right), and Bing’s Winters, Wise, and Yeh.
The 23rd annual Harvest Moon Auction, which benefits the Bing Nursery School Scholarship Fund, raised approximately $300,000 to help provide scholarship assistance to over 20 percent of the children attending Bing. This year’s event, with the theme of “Sail the Seven Seas,” was held Nov. 5, 2011, at the Arrillaga Alumni Center’s McCaw Hall on the Stanford University campus. As in past years, Helen and Peter Bing were strong contributors to the scholarship program with a generous gift of $50,000.

A colorful undersea mural, made by Bing children, welcomed the guests as they walked through the entryway reminiscent of a pier with posts, thick ropes and nets, and the children’s handmade paper fish, crabs and sea creatures. As guests entered the large room, each table filled with auction items was decorated with treasures, seashells and other nautical articles. Bing children’s photos, taken by Bing head teacher and research coordinator Chia-wa Yeh, were projected on a large screen to reinforce the purpose of the auction: to support children who would otherwise be unable to attend Bing.

The food was catered by Continental Caterers, serving appetizers representing cuisine from each region of the “Seven Seas,” including India, other parts of Asia, the Caribbean, the Mediterranean, Mexico and more. Bing teacher Todd Erikson was our DJ for the evening, playing a selection of seafaring songs to liven up the night! In keeping with our theme, our talented auctioneers, Warren Packard, Bing parent, and Laurie Quinn, alumni parent, dressed in pirate attire and helped bring humor, energy and enthusiasm to the live auction.

Auction attendees bid on exciting items during the live auction, including a “Seafood Feast with Teachers Lars [Gustafson] and Colin [Johnson],” the “Palo Alto Fire Department Birthday Party,” “Lunch with Stanford President John Hennessy” and more. The ever-popular “Fund a Scholarship” was a live bidding item with a cash donation that directly enables a child to attend our nursery school program. Approximately $20,000 was raised during the live auction and a total of $120,000 was generously donated prior to the auction night by parents, alumni and Bing supporters.

Other auction goods included events for children and families hosted by Bing teachers and families such as “The Great Bing Campout,” “The Bing Train Ride Adventure,” “The Science Experiment Party” and a “Pirates and Princesses Party.” For adults, dinner parties featuring Iranian, South African and Indian fare, as well as themed cocktail parties and wine tastings were offered.

Two popular social events included a talk by author Jeffrey Kluger, who discussed his new book, The Sibling Effect, and the annual “Bollywood Party.” We also appreciate the work and donations of parents in each classroom who put together over 40 themed class baskets, which are highly anticipated and successful auction items each year.

We would like to express our heartfelt appreciation to the auction chairs, Dawn Bercow and Payal Chadha, for spearheading a very successful auction. As always, we are extremely grateful for the dedication and time that our parent volunteers donate to make the auction a highly enjoyable community-wide event. This year over 200 Bing parents volunteered, participating in every detail of this extraordinary fundraiser—from solicitations, decorations and creative writing, to graphic design, check-in and check-out, with 37 co-chairs and 20 committees working tirelessly throughout the year. Bing teachers were invaluable participants before, during and after the event to support and ensure its success.

A special thanks to all who donated, volunteered and participated in the auction. We look forward to seeing everyone again at this year’s upcoming auction, “Planes, Trains & Automobiles,” on Nov. 17, 2012. We truly appreciate everyone’s involvement and support and look forward to another fabulous fundraising event!

2011-2012 Annual Fund Report

Thanks to the contributions of Bing parents, friends and our staff members, we met our goal of $300,000 to help support our annual budget. We’re deeply grateful for this generous support. We would like to extend a warm round of thanks to the parent fundraising chairs Jamie and Jeff Barnett, Marnie and Karol Marcin, Debra and Eric Ver Ploeg and their committee members for their efforts and support. In 2011-2012, the participation of our current Bing families reached 57 percent. In 2012-2013, we are striving for 100 percent participation!

The annual fund is an important part of the school budget. The campaign helps us close the gap between tuition and the actual cost of delivering the exemplary programs we offer. We depend on this fund to support staff development, additional assistant teachers in each classroom, parent seminars, special events, staff development, outdoor play area renovations and scholarships. No gift is too small or too large. Our goal is for every family to participate in supporting the school. Please join us as we maintain the excellence that makes Bing such a special place for young children. A big thank you to all.
Summary of Gifts to the 2011-2012 Annual Fund
Our heartfelt thanks for your continued support!

Patrons:
Anonymous
Spanta and Jennifer Ashjaee
The Brin Wojcicki Foundation
Mr. and Mrs. Dave Hitz
Stephen and Agatha Luzzo
Steven L. Merrill
Tiancheng Zhu

Benefactors:
Anonymous
Hilary Bates
from The Base Family Fund
Silicon Valley Community Foundation
Roelof F. Botha and Huifen Chan
Eli D. Cohen and Margarita Casanova Cohen
Angela and David Filo
Lauren and Chris Flink
Robert and Corinne Larson Trust
Lauren and Chris Flink
Angela and David Filo
Roelof F. Botha and Huifen Chan
Dorothy Claire An, Erick and Christopher
The Holland/Yates Family
Sam and Margaret Hayes
Mary Gullixson
Josie and Rusty Gaillard
The Fadil Family
Carson and Helmy Eltoukhy
Molly and Kevin Efrusy
Farah Hyder Champsi
Belle and Wenceslao Casares
Lisa and Steve Boom
Bundorf and Phillips Family

Sponsors:
Mark and Dawn Bercow
Chuckra Chai and Wanwimol Siriwantwechakul
In honor of TTH Afternoon Two's teachers
Donna Karon Company
On behalf of Christine VanDeVelde Luskin
Chandler and Oliver Evans
Sheryl Sandberg and David Goldberg
Stacy and Brent Gullixson
Geoffrey and Kathryn Gurtner
Steve Harrick and Jennifer Min
David M. Kerko and Heidi Hamilton Kerko
Katherine and James Lau
Gregory S. Lee and Linda Liu Lee
Lorry L. Lokey Supporting Foundation
Patricia Elsa Chang and Warren J. Packard
Jennifer Schilling Stein
R. Roy Vaid

Contributors:
Anonymous
Jeff and Jamie Barnett
Dave and Cara Barone
Megan and Harris Barton
Lisa and Steve Boom
Belle and Wenceslao Casares
Farah Hyder Champsi
Molly and Kevin Efrusy
In honor of East PM teachers
Carson and Helmy Eltoukhy
The Fadil Family
Josie and Rusty Gaillard
Mary Guillixson
Sam and Margaret Hayes
The Holland/Yates Family
Dorothy Claire An, Erick and Christopher
Klinker
Jan Mark Leeman and Maria Leeman
Shweta and Amish Mehta
David and Katy Orr
Julia and David Popowitz
Xu Yang Ren
Robin and Jake Reynolds
Jeffrey C. and Tina Niu Smith
Eric and Rebecca Stein
Amy and Sayre Stevick
Dee Ann Suppes

Donors:
Anonymous
Harrtote and Jane Aaron
Michael and Kelly Abbott
Kelli and Michael Agnich
Reena and Raj Agrawal
The Arrillaga Family
Jennifer Palye and Keith Baker
John and Kristen Barton
Cori and Tony Bates
Jonathan Stanley Berent and Jeanne Amelia Berent
Jennie and Doug Bernheim
Dr. Sabrina Braham and Mr. Laurence Braham
Nora ML Brownell
Steven and Jeannie Carriere
Dan and Shelley Chu
David and Nora Freeman Engstrom
Beth and Teymouir Barnam-Farmaian
Caroline and Michael Flexer
Venky Ganesan and Preetha Basaviah
Professor and Mrs. Theodore H. Geballe
The Gianakakos Family
John W. and Barbara Glyn
Poonmote and Aditi Goel
Alfred W. Griggs
Ruth and Ben Hammett
Li Yang Zhou and Andrew Harman
Mr. and Mrs. John Hofmann
Raymond Hsu and Joanna Lin
Robert and Mary Hundt
William J. and Danielle C. James
Katrina Ryan and Bill Jeffers
Yogi and Rumiko Kawaguchi
Sophia Yen, MD, and Steve Ko
Drew and Rose Lanham
Yeh Biin Song and Brian Lee
Michael Lee
In honor of East PM teachers
Amy and Jonathan Levin
Patrick Lin and Grace Lee
Andy and Wissy Ludwick
Becky Kleiner and Meyer Malka
Sebastian and Christina Misoffe
Christine and Bernard Moon
Vickie and Greg Mva
The Munzig Family
Peter and Stephanie Oshman
Paige and Edward Parenti
Bundorf and Phillips Family
Lexi and Corby Reese
Kim Malone Scott and Andrew D. Scott
Lawrence Seeff and Maya Adam
Rohit Sharma and Reenu Singh
In honor of Documentation/Teacher Research Institute
Dr. John Frederick Shoch
Pam Ware and Paul Single
Boyd C. Smith and Jill J. Smith
Carl W. Stern and Holly Hayes
In honor of Isla and Maya Stern
Cameron and Annie Turner
Sue and Andy Uchida
Eric and Debra Ver Ploeg
Lucas and Suzanne Watson
Karen and Tom Welch
Kevin and Stacia Wells
Phil and Jennifer Winters
Jay Wohlgemuth
Gregory Lennox Wright
The Young Family

Friends:
Anonymous
Alison and Edward Abbo
Jen Aquilla
Azim Akbarnejad-Oshaghi
Todd Alamin and Artis Montague
The Allebest Family
Lindsay and Sadick Alsadir
Rodrigo Alvarez
Michael Anderson and Bethany Coates
Monika Nagy and Rico Andrade
Mr. and Mrs. Ichiro Aoki
Jenna Ascar
The Avery and DeNyse Family
Nora Dahr and Firas Azmeh
Minjae Bae
Rafi and Kathy Bamdad
Joe and Alison Barta
David W. Bartz and Margaret L. Johnson
Jennifer Evans Beatty
Ori and Kathy Ben-Yehuda
Jonathan Adam Bernstein
Vivek Bhalia and Kiran Khush
Ann and Pete Bjorklund
Silvia Delgado and Roman Blanco
Claire and Nick Bloom
Michelle Sandberg and Marc Bodnick
Kathleen Emi Hughes and Daniel S. Bomze
Carolyn Brenner
Monica and Romulo Brillantes
Rebecca Miller and Marc Bryman
Chara and Keith Burnett
Lawrence Fehl Byers
Rod and Lara Cardamone
Laura L. Carstensen
Rosa Castafedra
Parul Chandra
Bryna Trinette Chang
The Chapman and Carranza Family
Courtney and Michael Charney
Tandy Aye and Benjamin Chung
In gratitude of TTH Center AM teachers
Eve V. Clark
Alycia and Pete Clarke
Heather Ann Colbert
Staci and Cary B. Cole
Art and Bonnie Colet-Ruiz
Laura Coleman
The Collosi Family
Kristina Smith and Eric Cox
Mayra Leon Cramer
David and Amy DaPonte
Amy H. Darling
Jerry and Heather Dischler
Nana and Huy Do
Jasmine Dobbs-Marsh
Rajiv and Saloni Doshi
Clara Dye
Khalilah Edwards
Bradley C. Ekstrand and Diana Romeu Ekstrand
Jane Chen and Jen Eng
Gregory and Diana Engel
Ariane and Todd Erickson
In honor of the TTh AM Two’s teachers

In memory of Maria Shawver
Karn and Kurt Knight
Brian Knutson and Jeanne Tsai
Albert Ko and Reiko Ann Miura-Ko
Veronica and Kevin Kogler

In honor of MWF Two’s!
Michael and Stephanie Lempres
Jeanne and Mark Lepper
In memory of Mrs. Ruth L. Wallace
Julie and Andrew Lev
Benjamin Lev and Elizabeth Kim
I-Han Liang
Ira W. Lit and Jin Y. Choo
Adrienne Lomangino
Peter and Patricia Long
Mark and Carole Louie
Robin Love
Emma Ludwig
Mark Mabry
Corinne and Jens Machatzke
In honor of East AM teachers!
The Mahendroos Family
Saige Malak
Aerin Myles Malianuag
Marcy Mamiya
Edward and Emily Manche
Dr. and Mrs. Ariel Marks
Jenny Martinez
Emma McCarthy
Kristin McKee
Paul A. McNab and Brenna J. McNab
Caroline MacTaggart
Jeff Merkel
The Katli Milikulainen Family
Karen and Garrett Moore
Mandy Gulick and Don Morris
Nandini Mukherjee
Mary Munday
Greer Murphy and Leslie Fiedler
Dr. and Mrs. Kevin Murray
Richard M. Myers and Wendy Yang
In honor of Zachary and Susanah Myers
Danielle Nakamura
Larry Ong
Courtney and Dennis Payne

In honor of the East PM teachers and MW PM

Dr. Jennifer and Mr. Daniel Kloke
In memory of Zachary and Susannah Myers

In honor of East PM teachers and MW PM

Courtney and Dennis Payne

Release of New Music CD at the 2012 Harvest Moon Auction

Planes, Trains & Automobiles will be on sale at this year’s Harvest Moon Auction on Nov. 17th. This CD, the sixth of the Bing CDs produced by assistant director and former music specialist Beth Wise, includes favorite transportation songs. Beth and current Bing parent Jim Reese will provide the guitar instrumentation for guest vocalists including several Bing teachers, alumni parents, and more. The CD is made possible by a generous donation from the Arrillaga family and the Rebecca and Eric Stein family, with all proceeds supporting the Bing Scholarship Fund.

Look for this new CD filled with your favorite plane, train and car songs in November!

Visit http://bingschool.stanford.edu/music.html for information on all Bing music CDs and to listen to samples.
Monetary gifts on the occasion of the 2011 Harvest Moon Auction
These monetary gifts support the Bing Nursery School Scholarship Fund

Patrons:
Helen and Peter Bing

Gold Sponsors:
Cori and Tony Bates
Chuckra P. Chai
Bethany Shaler Coates
Dave and Yen Hitz
Katherine and James Lau
James Reese and Susannah Bernhart
Hilary Ayn Valentine

Silver Sponsors:
The Abbott Family
The Arrillaga Family
This donation is in honor of the teachers of Center Room. Thank you for all you do for Ben!
Dave and Cara Barone
Venky Ganesan and Preetha Basaviah
Shweta and Amish Mehta
The Missoffe Family

Bronze Sponsors:
Anonymous
Jennifer Paley and Keith Baker
Stacy and Brent Guillixson
Jennifer and David Y. Ko
Nate and Erin Olmstead
Sonia Arrison and Aydin Senkut
Trea A. Vassallo

Friends:
Edward and Alison Abbo
Rigele Abilock
Reena and Raj Agrawal
Lindsay and Sadick Alsadir
Dorothy An
Mark Applebaum and Joan Friedman
Jamie and Jeff Barnett
Dawn and Mark Bercow
Kiran Kaur Khush and Vivek Bhailla
Patrick H. Bitter Jr., M.D.
Reneé and Gregory Blianda
The Rhyu/Bohen Family
Kathleen and Dan Bomze

Stephanie and David Brecher
Dan and Carolyn Brenner
Kathryn and John Brotnem
Jean Tang and Nils Burger
William Bush and Ellen Peel
Mari A. Caballero
Professor Laura Carstensen
Marland and Shannon Chancellor
Sarah and Markus Covert
R. Andrew and Kristin Cox
Damon and Carrie Cronkey
Lucy Koh and Tino Cuellar
David and Amy DaPonte
Fahri Diner and Jill A. Layman
James and Carmen Dowley
Catherine and Thomas G. Dowley
Lisa and John Earnhardt
Gregory and Diana Engel
Connie Epperson
Nam Cho and Nate Gallon
T. Anastasios Gianakakos
Ashish Goel
Robyn Kamisher and Jason Gordon
John Grantz and Heidi Smith
Elizabeth Lemon and Craig Griffin
Michael Hubly and Marta Nichols
Lars Johnsson and Sara Woodham-Johnsson
Yoji and Rumikio Kawaguchi
Angie and John Kim
Carol Elizabeth Klein
Joshua and Juliet Knowles
Petia and Gary Kremen
Jeffrey Kwan and Pamela Kunz
Trinh Lam
Nicole and Joseph Lee
Clarissa and Roger Lee
Tony S. Lee and Yeuen Kim
Jonathan and Amy Levin
Peter Levine and Martha Blackwell
David B. Lobell and Stephanie M. Wong-Lobell
Camilla and Stephen Lynch
Winnie Chui and David Malmborg
Trey Matteson and Jean Littschwager
Robin and Art McClish

Jamie and Jeffrey Merkel
Karen and Garrett Moore
Dr. Macdonald Morris and Mrs. Mandy Gullick
Vickie and Greg Mrva
Peter G. and Margaret O. Munzig
Catherine Cullinane Murray
Robert Oller
John Oram and Stacye Rubin
David and Katy Orr
Warren Packard and Tricia Chang
Margaret D. and Philip A. Pizzo
Andrew and Gina Preston
Suma and Zulfiak Ramzan
Sandra and Matthew Robles
Melinda Rogers
Lisa and Neil Rothstein
Jerome T. Shen and Jennifer T. Yeh
Rachel Wheeler and Kenneth W. Shotts
Omar M. Siddiqui and Zeenat H. Khan
James and Patricia Smith
Allieza Michael Sodeffi and Sepideh F. Sohrabi
Lori and Grant Speth
Amy and Sayre Stevick
Anngi and Roland Strick
Edward Swiek and Petros Maniatis
Professor Jeanne Tsai
Brit and Kenneth Turnbull
Wanjira Jirajaruporn and Benjamin Van Roy
Mary and Brendan Walsh
Jacqueline and Rafik Ward
Pamela Ware
Watten Painting Inc.
Dana Cho and David Webster
Jayashri Srikantiah and Robert Weiner
Mark Weinswig and Zsuzsa Hamburger
Kevin and Stacia Wells
Amy Elizabeth Wender-Hoch
Melissa and Dennis Wilkinson
Catherine Wilson
Herman Yang and Ashlee Lim
Kimberly Bazar and Anthony Yun

Bing Children’s Fair and Alumni Breakfast

Bing Children’s Fair, the school’s spring community event, was held on May 20, 2012. Activities and games for children ages 2 to 8 took place in the play yards. Entertainment included Stanford student performance groups — the Mendicants, Mariachi Cardenal de Stanford, the Stanford Band (pictured at left) — and Nick Barone Puppets.

Special thanks to co-chairs, Andrew Young, Cindy Young, Vladimir Jovanovic and Rose Lanham (pictured at left, from left to right) and all the volunteers for a successful fair.

An alumni breakfast precedes the fair in the Two’s play yard. Pictured at left are Bing alumni Hadley Stevick, ’08, Perry Stevick, ’11, with their mother Amy, brother Guy and teacher Quan Ho.

Photo not available online.
PLANES, TRAINS & AUTOMOBILES

Bing Nursery School’s 24th Annual Harvest Moon Auction

Saturday, November 17, 2012 at 6:00pm
at the Frances C. Arrillaga Alumni Center
326 Galvez Street, Stanford University campus

Celebrate the evening with food, wine
and exciting auction items.

All proceeds benefit the Bing Nursery School
Scholarship Fund.

If you would like to donate to this year's auction,
please contact us at harvestmoon@stanford.edu,
or (650) 723-4865, or donate on-line at

ALL ABOARD!

Hays Hyre & Brigette Lau
2012 Harvest Moon Auction Co-chairs

Bing Nursery School, 850 Escondido Road
Stanford University, Stanford, CA, 94305