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More than a century of individuals involved with the Hockaday community – students, faculty, staff, alumnae, parents, grandparents, and friends – have had a positive impact on each other and the world in which we live. Hockaday, published twice a year by the School's Communications office, strives to articulate that impact – in the past, in the present, and in planning for the future. The magazine also seeks to highlight the activities of the School and its alumnae, as well as to help define and analyze topics facing our entire community.

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Perspectives

As much as we all enjoyed the excitement of the Centennial year and the rest and relaxation of the summer that followed it, we have been energized by the buzz in the hallways as our girls have returned, ready to immerse themselves in another year of discovering and exploring new ideas and challenges. At the dawn of Hockaday’s 101st year, we are seizing the moment to fine-tune our focus so that we may continue to prepare our girls to go forth with confidence, curiosity, and courage. Since 1913, when Miss Hockaday established her Four Cornerstones – Character, Courtesy, Scholarship, and Athletics – our School has held firm to these guiding principles. We know they will continue to guide us into our second century, even as we imagine what is in store for our School in the years to come.

From our newest Daisies in Pre-Kindergarten to our accomplished seniors reveling in their final year of Upper School, Hockaday seeks to instill a philosophy of purpose in the classroom, on the athletic field, on the stage, and in the community. No matter the challenge before her – understanding differential equations, playing in a championship game, auditioning for a part in a musical or play, debating a point in a national tournament, or building a new house for a family – a Hockaday girl is prepared to meet that challenge with confidence and resilience.

As you drive onto campus today, you will see that in the first days of our second century we officially opened the new Science Center. With extraordinary flexibility and can-do spirit, our science faculty and operations staff worked to ensure that our girls could use the multi-disciplinary spaces of this state-of-the-art facility on day 1. The building embodies what matters most in becoming a scientific thinker: thoughtful inquiry about how nature works, and active ‘doing’ of science. The completed Centennial Center will encompass not only science, but new state-of-the-art fine arts spaces as well. We hope to begin construction on Phase II of Centennial Center during the 2014–15 academic year. With these updated facilities, Hockaday will continue to lead in STEAM (Science, Technology, Engineering, Arts, and Mathematics) education, preparing students for the demands of an ever-changing future.

In addition to these exciting construction projects, the Board of Trustees and many committed volunteers have been working diligently on developing a new Strategic Plan to ensure we are effectively positioned to meet the demands of today’s world. Our faculty and staff is engaged simultaneously in our self-study, part of our ten-year reaccreditation process through the Independent Schools Association of the Southwest. With this generative and intentional work about what’s next, we will be poised to continue our second century in as distinguished a manner as we ended our first. I am pleased with our progress thus far, and look forward to sharing our plans with you in the coming year.

Each day at Hockaday is filled with new opportunities to create those “Aha!” moments for our girls. We encourage each girl to think beyond what is here and new to what could become a reality in the near future. As you will see in this issue of Hockaday, there are many exciting opportunities on the horizon for our School. Imagine what we will do together in Hockaday’s second century.

Kim Wargo
Eugene McDermott Headmistress

“IMAGINE WHAT WE WILL DO TOGETHER IN HOCKADAY’S SECOND CENTURY.”
Hockaday Receives Top Awards in the National and Regional CASE Annual Awards Competitions

In April 2014, Hockaday’s Office of Communications and Marketing received top awards in the Magazine and Web-E-Newsletter categories at the Council for Advancement and Support of Education (CASE) Southwest District IV Annual Awards Competition in Houston, TX. Hockaday’s fall 2013 magazine “The Art of Experimentation” won silver, and both the spring 2013 magazine “Women in the Media” and DaisyMail won bronze. CASE has also named The Hockaday School a silver award winner of its National 2014 Circle of Excellence awards program. Hockaday was recognized for its magazines and the Anthology.

Maddie Bradshaw ’14 Selected as Celebrity Judge at Lemonade Day

Maddie Bradshaw ’14 was invited to participate as a celebrity judge in the inaugural year of Lemonade Day Greater Dallas. Lemonade Day is a free, fun, experiential learning program that teaches youth how to start, own, and operate their own business – a lemonade stand. Launched in Houston, TX in 2007, Lemonade Day has grown from 2,700 kids in one city to 202,000 kids in 34 cities across America and Canada.

Hockaday Student Publications Receive Unprecedented Awards

In March, The Fourcast, Cornerstones, and Vibrato were each awarded a Gold Crown at the Columbia Scholastic Press Association Conference. The publications recently received additional awards at the National Scholastic Press Association (NSPA) Spring Conference in San Diego,
The NSPA awarded a Pacemaker Award to the hockadayfourcast.org news website. They also awarded a Pacemaker Award to Vibrato. As defined by the NSPA, the National Pacemaker Awards recognize excellence in American student journalism. The awards are generally considered to be the highest national honors in their field, and are unofficially known as the “Pulitzer Prizes of student journalism.”

Sadie Lidji and Whitney Middlekauff to be Featured at the Dallas International Film Festival

Advanced Filmmaking students Sadie Lidji (Class of 2016) and Whitney Middlekauff (Class of 2016) both created short films that were selected for the North Texas High School Shorts Showcase at the Dallas International Film Festival. Sadie’s film, Kiss the Boys and Make Them Die, and Whitney’s film, Rolling Alone, were screened in April at the Perot Museum of Nature and Science.

Hockaday Featured on D Magazine’s Greatest Stories List

In honor of Hockaday’s Centennial celebration, D Magazine featured the story “Why Hockaday Girls are Different” on its website. The story, originally written in 1978, has been added to D Magazine’s 40 Greatest Stories list.

Hockaday’s Centennial Celebrated and Preserved by Congress

On April 10, 2014, Congressman Kenny Marchant stood before the 24th Congressional District of Texas and asked his colleagues to join him in marking and celebrating The Hockaday School’s Centennial. This Congressional Record has been archived in the Library of Congress, a rare honor that will ensure Hockaday’s legacy will forever be preserved.

Hockaday Student Rachel Rohrich Wins Grand Prix Award for Ballet Performance

This past year, seventh grader Rachel Rohrich won the Grand Prix award for the best classical and best contemporary ballet performance on February 2, 2014, in the semifinals of the Youth American Grand Prix for Ballet. This award is given for the best overall ballet performance in her age group. The past two consecutive years, Rachel has also won the Hope Award, which is awarded for the best overall performance in the pre-competitive age division.
Hockaday Students Share Their Dreams with Students in Africa

In November 2013, Dr. Tererai Trent visited with the Hockaday community to share her story and mantra: “It is achievable.” After hearing Dr. Trent’s story of writing down her dreams many years ago, the Hockaday Lower School students wrote down their dreams on daisy petals. Lower School students at Dr. Trent’s School in Zimbabwe also wrote down their dreams, and now the dreams of both Schools are displayed as a mural in the Rotunda, prompting discussion among the students and teachers about dreams and perseverance. Many more conversations and partnerships are underway.

Hockaday Students Spend MLK Day Doing Service

Instead of taking the day off on Martin Luther King, Jr. Day, 20 Hockaday students participated in a day of service with Youth Against Hunger volunteers. The students, along with 40 other volunteers from the Dallas area, sorted 28,800 pounds of grocery rescue, providing 24,000 meals to North Texans in need.

Rowing Teams Advance to Finals

Hockaday rowing teams made a splash at Regionals in Oklahoma City in May. The Novice quads also qualified for Finals and placed 3rd overall.

Ceramic Students Produce Bowls for 15th Annual Empty Bowls Luncheon

After more than 15 years, Hockaday Ceramics students again produced bowls for the Empty Bowls Luncheon, which took place on March 7, and helped raise over $183,000 for the North Texas Food Bank. That is more than 500,000 meals for hungry neighbors, and 17% more than last year.

Students Raise Funds for Vaccinations

Hockaday students held a bake sale and spread awareness of Measles/Rubella to the Upper School, donating all proceeds to a village near Dr. Trent’s home in Zimbabwe to vaccinate 560 children. The hope is the disease will be eradicated in the next 10 years and our girls will have played a role in making that a reality.

Heather Xiao and Catherine Jiang Advance to National Chemistry Olympiad Finals

The U.S. National Chemistry Olympiad and the International Chemistry Olympiad are multi-tiered competitions that bring together the world’s most talented high school students to test their knowledge and skills in chemistry. Approximately 1,000 students across the country sat for the three-part, four-and-a-half-hour national exam in April. No more than two students from any given school are allowed to compete in the national competition. Hockaday students Catherine Jiang (Class of 2016) and Heather Xiao (Class of 2016) advanced to the national competition.
Hockaday Timeline Challenge

To complement a special Centennial unit of study, the girls in Ms. Miller’s fourth grade social studies class created an exciting game called the Hockaday Timeline Challenge.

The students formed “decade research teams” and used the Hockaday Centennial Website, books from our library, various history websites, and apps on the Lower School iPads to research important historical events. They also visited the Hockaday Archives with many questions for the School’s archivist. The girls used all of this information to create a card game called the Hockaday Timeline Challenge. Using Microsoft Publisher®, each team created game cards highlighting important events in their chosen decade. The game itself is played in groups of four or more, and challenges each player to sequence events correctly. The player who accumulates the greatest number of correctly-sequenced cards in her timeline is the winner.

A fourth grade Hockaday Timeline Challenge Tournament was the culminating activity in this unit of study, and each student took home a set of the game cards to play with her family. Through a creative, interactive activity, fourth graders achieved their goal of learning how the important events in Hockaday’s history fit together with what was happening in our city, state, and country at the time.
Fourth Graders stargaze in Hockaday’s new Savoldelli Family Planetarium.
Harris cites brain research by neuroscientist Gary Small of UCLA that provides “the first solid evidence that our brains are reorganized by our use of the internet.”1 For children, this “rewiring” of the brain is potentially even more significant; since toddlerhood, technology is all around us. Harris points to a 2012 white paper by the Pew Internet and American Life Project and Elon University which concludes that “young people now count on the internet as ‘their external brain’ and have become skillful decision makers – even while they also ‘thirst for instant gratification and often make quick, shallow choices.’”2

This research resonates with what educators today experience in the classroom with students. Instant access to unbelievable repositories of information challenges our conventional wisdom about what should be “known” by students and what should be “accessed.” What is the meaning and value of content mastery when information is ubiquitous and instantaneous?

A few years ago, the rise of the MOOC (Massive Open Online Course) and the proliferation of online degree programs prompted some to consider whether we would see the demise of the traditional classroom within the decade. In 2013, we saw something of a backlash – or at least a pervasive questioning – that asserted the lack of evidence that MOOCs were effective, in part because the completion rate was abysmally low.3 The controversy prompted the Bill and Melinda Gates Foundation to fund the MOOC Research Initiative to evaluate MOOCs and “how they impact teaching and learning and education in general.”4 This research is focused primarily on whether online courseware can provide similar or

2 Ibid.
recently read an article in *Wired* magazine by Michael Harris. In his book, *The End of Absence: Reclaiming What We’ve Lost in a World of Constant Connection*, Harris posits, like others before him, that we are in the midst of a transformation in the way we think about knowledge – and that this shift has profound implications for the way we teach and learn.

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2 Ibid.


improved student outcomes – essentially looking at the issue of content mastery.

However, our calling as educators has always been about more than content mastery. Rapid change in the availability of information and potentially in the definition of knowledge itself doesn’t change the reality that our students need more than just access to facts in order to become capable, intentional, thoughtful, and productive human beings.

**How do we help our students develop beyond “shallow consumers of information” to be fully realized human beings, capable of the deep reflection that is required to navigate an increasingly complex world?**

This, I think, is the fundamental question, and it is why I believe that it has never been more exciting or more daunting to be an educator than it is today. We are required to be futurists – grappling with and anticipating the nature and scope of change – while we are also immersed in the world of the here and now with the students in our classroom at this moment. Our responsibility extends far beyond “what if” imagining about the limitless possibilities opened by the information revolution. We are – and must be – about equipping students to embrace those possibilities in order to lead lives of purpose.

Teaching, then, remains a quintessentially human undertaking. A few months ago, I re-read our faculty-staff summer reading book, *Good Influence: Teaching the Wisdom of Adulthood*, by Daniel R. Heischman. I was reminded that in all the student data gathered at Hockaday in the past few years – through our young alumnae survey, our senior exit interviews, our participation in the High School Survey of Student Engagement, and Student Council focus groups – one refrain resounds loudly and clearly: Teachers make the difference in the experience of students. Although the methods used and skills taught and emphasized change, the purpose of our undertaking remains constant. Heischman exhorts us: “Thus do we find our place in the cycle of generations, in the mystery of something larger than ourselves, passing on life in its many and varied forms to those in our care.”

“With ever-increasing access to brain research, what do we know about the way we learn, and how might this knowledge influence pedagogy and priorities?”

During this first year of our second century, we are immersed in generative conversations to ensure that we are anticipating and leading in the evolutionary task of educating students, while remaining true to the foundational cornerstones that continue to guide our School. Our teachers and staff are engaged in the work of self-study, part of our ten-year reaccreditation process with the Independent Schools Association of the Southwest. This process is often a “check-the-box” enterprise in which schools ensure that curriculum is documented, standards are met, and policies and procedures are vetted and in place. However, it has the potential to be much more, and we have seized the opportunity to engage in substantive conversations that cross disciplines and divisions as we ponder what it means to be an institution of teaching and learning today and in the near future.

What are the “essential skills” that a graduate of Hockaday must have when she leaves our gates? One need only Google the now almost anachronistic term “21st century skills” to see the overwhelming concurrence of experts in business, education, technology, and entrepreneurship: Creativity, adaptability, and collaboration are among the most essential skills required for success in a world of exponential change.

How do we ensure that our program builds those skills? How do we decide what we teach? How must our definition of traditional disciplines change as we examine questions that cut across fields of study? With ever-increasing access to brain research, what do we know about the way we learn, and how might this knowledge influence pedagogy and priorities? How have the roles of student and teacher changed, and how might that change allow for collaboration, reflection, and creativity?

Equipped with the knowledge that many of our graduates will enter and embrace fields or endeavors not yet invented or defined, how do we help them develop the habits of mind that allow innovation to flourish? With new STEAM (Science, Technology, Engineering, Arts, and Mathematics) facilities that give us
unprecedented opportunities, we are poised to lead the way in engaging students in real-world, hands-on problem-solving that will equip them for the unknown future. These questions, then, are essential for us to examine and embrace even as we also consider what things cannot and must not alter.

In the Core Values Exercises held on our campus last April and attended by alumnae, faculty, staff, current and past parents, and students, our community affirmed that in the midst of a rapidly changing educational landscape, Hockaday’s commitment to the whole girl is more important than it has ever been. We must continue to support more than just the academic well-being of each student, ensuring that each Hockaday is “healthy, safe, engaged, supported, and challenged.”

Our duty to the whole girl is at the heart of all that we do. That shared understanding is one of the reasons Hockaday enters her second century as a national and international leader in girls’ education. One of the most important things I can do as Head of School is hire, retain, and empower incredible teachers who can and will change lives through their commitment, caring, compassion, and expertise. If I do that, great things happen!

So I’ll close with words from our faculty who shared their answers to these questions: “What are the greatest challenges and opportunities for our School in 2014 and beyond?” “What excites you most about your work as a teacher?”

Kathy Hogan, 1st grade teacher: “How can technology help me reach my students and excite them about the learning process without ever losing the close, nurturing bond between teachers and our young students?”

Kevin Brady, Fine Arts (Ceramics) teacher: “One of my main goals of teaching has always been to be open to student ideas that may be very different from the task at hand. To allow students to discover that they are more creative than even they could imagine. And to breathe deeply and turn off the phone!”

Janet Bilhartz, Upper School English teacher: “When I read your question ‘What excites you about your work as a teacher today,’ I immediately

5 The Core Values Exercise was part of the Board of Trustees’ strategic planning process, now underway in conjunction with our self-study.


hockaday magazine
had an answer: the opportunity to interact with bright, curious students who are eager to learn and who, daily, open my mind to new ideas and possibilities.”

Shannon Nadalini, 2nd grade teacher: “What excites me about being a teacher today is the opportunity to help girls learn and practice the skills necessary to be leaders in our society. At our school, we get to see the world around us through the lens of many different cultures. This kind of learning promotes a curiosity and a vital sense of community. In our classrooms, we have the flexibility to foster creativity and critical thinking as we teach the girls how to learn.”

Alejandra Suarez, Upper School Spanish teacher: “I think one of the biggest challenges we face is distraction. WAIT, let me check my Twitter, Instagram, Facebook; sorry! But with the challenge, I believe we have great opportunity to communicate and send positive feedback quickly. I absolutely love watching my students deserve the victory. We teach beyond the doors of the classroom, and that for me is our most important role as educators.”

Susan Sanders, Chair of the Visual Arts Department: “I think a very important thing for our schools in 2014 and looking ahead will be to help our students stay connected to a meaningful sense of their own humanity and the humanity of others while using social media ... And just watching them grow up and become capable people is really neat.”
THE DISCUSSION OF EDUCATION DESIGNED TO DEVELOP 21ST CENTURY SKILLS IN OUR STUDENTS HAS BECOME INCREASINGLY CRUCIAL.

What are the experiences that our students should have that will empower them to meet the challenges they will face in the future? Can we find new ways to provide our students with experiences in acquiring and building upon new skills? What might education for the next 100 years look like?

BY: AMY BANKS — LOWER SCHOOL SCIENCE INSTRUCTOR
Author, physician, and clinical researcher Dr. Stuart Brown visited Hockaday two years ago and shared the results of his years of study focused on the nature and benefits of play. In his book, *Play*, Dr. Brown wrote about the wide-ranging, lifelong benefits of childhood play, tinkering, and creating – children “Making” with their hands. *The Makerspace Playbook*, one of the most popular references on the subject of “Making” in an educational setting, tells us that “Making fosters character-building traits collectively known as grit, including creativity, curiosity, open-mindedness, persistence, social responsibility, and teamwork, among others.”

**IF WE CAN NURTURE OUR STUDENTS’ NATURAL TENDENCIES TO TINKER, TO ADAPT, TO MAKE, AND TO STRIVE FOR SOLUTIONS, WE WILL GIVE THEM AN ADVANTAGE IN WHATEVER CHALLENGES THEY TAKE ON IN THE FUTURE.**

With the opening of the Centennial Science Center, we are piloting a new fourth grade course called Invent to Learn. The goal of the Invent to Learn course is to provide our students with opportunities to imagine, design, and create solutions to problems in a hands-on, collaborative way. In the process, students will learn and practice new skills as they come to experience and trust their own ability to have a unique impact on their world.

Along with Lower School Art Teacher Shelley Hampe, and with the support of the Lower School Technology Specialist Karen Roberts, I will teach the course, which will be an active, fully integrative STEAM (Science, Technology, Engineering, Art, and Mathematics) experience. The course will meet in the engineering classroom and the Idea Lab in the new Centennial Science Center.

**FIG 1:2 - The STEAM Blend**

Equal parts Science, Technology, Engineering, Art, and Mathematics make up the full STEAM experience.
Each student will choose from and complete one of three “skill-building” projects. The projects will each have a slightly different focus including, but not limited to, techniques in:

FIG 2:1 – Skill-Building Focuses

WOODWORKING
TEXTILES
ELECTRONICS
AND
PROGRAMMING
In the spring, each student will develop and present a proposal for and execute an original project—something she would like to design and create or improve. Students will document their process, collaborate to share ideas and support each other’s efforts, participate in peer- and self-review, and build resiliency and problem-solving skills as they experience the productive process of iteration and present their work to their community.

Through their experience in the Invent to Learn course, our students will cultivate two of the most valuable 21st century skills—creativity and resilience.
In the past year alone, the girls’ education movement has reached a new threshold; one that has received global media attention in hopes of progressing the state of education for adolescent girls worldwide. The movement, represented largely by 16-year-old activist Malala Yousufzai, even caused the United Nations to revise their millennial goals, such that there should be a secondary schooling facility available for every child around the world by 2015. My personal interest in the advancement of girls’ education inspired my senior independent project, which investigated and explored how teenage girls around the world perceive the value of education, and what facilitates and constrains their pursuing an education.
Using a snowball sampling method, I collected qualitative data from girls ages 14 to 19 in both socioeconomically privileged and disadvantaged circumstances in countries representing four different regions of the world; the U.S., Pakistan, Zimbabwe, and Mexico. Once I started analyzing the data incorporating each demographic, it was easy to see the disparities in differing perceptions regarding education. For instance, gender disparity comparisons provided surprising results. Among the underprivileged class, fathers were more educated than mothers. Overall, boys’ education was favored over girls’ education in 39% of the responses. Amongst underprivileged Zimbabwe students, the gender disparity was its highest at 100%.

One of the most important objectives of my study was to investigate the impacts of sociocultural hurdles: culture, family opinion, religion, and availability of schooling facilities. Among these hurdles, culture poses a challenge to 100% of Pakistani girls, while 80% of girls in Zimbabwe are constrained by family opinion, and nearly 90% of Dallas Independent School District and Mexican students believe religious opinion threatens higher education.

**IT IS THE PERCEPTION OF THE VALUE OF EDUCATION THAT CAN PROGRESS THE STATUS OF GIRLS AROUND THE WORLD.**

When asked about seeking a college degree, each of the demographics had at least a 60% positive response, while none of the disadvantaged girls from Zimbabwe wished to pursue higher education. This again falls back to the problem that unless girls understand the advantage of seeking higher education, they will not do so. It was interesting to discover that regardless of social class and economic status, 62% of all families spent a significant amount of household income on education. In fact, nearly 30% of disadvantaged families spent at least 75% of their total annual income on their children’s education. Moreover, the privileged class paid the most for education in spite of having a free alternative, for it is generally perceived as substandard.

It is the perception of the value of education that can progress the status of girls around the world. Our own general understanding, coupled with the media’s portrayal of the issue, contradicts many of the actual problems plaguing global education. The solution to this worldwide challenge should focus on changing the stigmas regarding higher education for women by making it more socially acceptable. As the sample only studies girls currently receiving an education, 98% of the surveyed population definitely agrees to educate their own children. If more parents realized the value of their daughters’ furthering their education, rather than restricting them to domestic work, it would empower and inspire girls to learn. Solutions can be found by providing more affordable and accessible schooling for underprivileged families, providing female mentors and tools for girls to follow a career path, and mapping future success with post-collegiate jobs. Although we may alter the perceptions of parents, tradition, and society, it is ultimately the choice of the girls themselves to believe that if they can dream it, they can achieve it.

For Raheela’s full presentation and additional information, please visit http://issuu.com/hockaday/docs/educated_perception.

FALL 2014
HIGH SPEED CONNECT

BY: JASON CURTIS,
DIRECTOR OF TECHNOLOGY AND INFORMATION RESOURCES
Both students and teachers will be able to learn about and experiment with new, cutting-edge technologies like 3D virtual reality, while communicating with other students and teachers all over the world. The gift has also funded equipment upgrades and professional services that are vital to utilizing this new resource. Hockaday is one of a very few PK-12 institutions, public or independent, to have this level of bandwidth available to its students and teachers.

Along with the financial support, this anonymous donor has facilitated an emerging relationship with AT&T to provide advice and counsel for our IT Department. This relationship has the potential to impact not only our community, but also other schools around the country as we develop a template which AT&T can use to work with other schools with the intent of cultivating a love for the STEAM disciplines.

This gift of resources and expertise couldn’t have come at a better time, as we have opened Phase I of Centennial Center, an integrated sciences and arts facility. Our faculty will continue to immerse our girls in a curriculum based in problem-solving, so that they can exercise their innovation and creativity skills. The Hockaday IT Department will be working with the faculty to discover and implement new and interesting technologies that leverage our bandwidth resources in an effort to better support the work of teaching and learning.

The investments that we make today in bandwidth, infrastructure, and training assure that our students will have the ability to take advantage of new, cutting-edge resources without hesitation. So, while none of us know exactly what the future holds for our students, we can be assured that we are providing them the resources to get there.
Hockaday’s Auxiliary Programs provide rich opportunities for learning, enrichment, and fun beyond the classroom. Summer at Hockaday, Private Music Lessons, and the newly launched Daisy Afternoons allow Hockaday students and the greater Dallas community the opportunity to try something new, dive deeper into a personal interest, and learn through play in a safe and structured environment. The programs share the expertise and passion of the faculty and staff, by challenging students to try something new, by providing the opportunity for students to improve a skill or gain a greater understanding of a subject matter, and by encouraging the elements of play and fun. The learning doesn’t end when the last bell rings. The learning continues after school and into the summer.

By Melissa Curtis
Director of Auxiliary Programs
SUMMER AT HOCKADAY

Summer at Hockaday recently finished a successful season, with 1,150 students participating in camps and classes. It launched with a new name, new logo, new schedule, and new offerings – with the goals of being more accessible to families’ summer schedules and hosting a diverse offering of summer programs. Camp and class offerings included an increase in Science, Technology, Engineering, and Math (STEM), along with Fine Arts and Fitness. We hosted many new and returning partnered organizations who offered summer programs, which generated approximately 2,400 students on campus. Summer at Hockaday 2015 opens June 8.

PRIVATE MUSIC LESSONS PROGRAM

Ela Hockaday established the Private Music Lessons Program in the 1930s, and the program remains an integral part of educating young women by providing them with musical, intellectual, and emotional growth opportunities. Hockaday’s Private Music Lessons Program has seen substantial growth over recent years, and currently has over 200 participating students. Students receive private lessons in the areas of piano, voice, strings, woodwinds, and brass. Students who participate in private lessons not only see exponential growth in their personal musical abilities, but contribute greatly to the musical growth of Hockaday’s Fine Arts Department. Being able to provide this service during the school day or at the end of the school day provides quality service for Hockaday families.

AFTER-SCHOOL PROGRAMS

Today’s parents find themselves looking for activities to fill the hours immediately following the school day, which has resulted in a rise of after-school programs within independent schools throughout the country, including Hockaday’s new Daisy Afternoons. Middle School students have the option of joining the Daisy Den, which is a time for homework, outdoor play, crafts, visiting with friends, and more. In addition to the Daisy Den, Middle School students have the opportunity to participate in classes that meet weekly at the end of the school day, such as Woodshop with Leon de Oliveira, Building an Essay with Suky Kang, Cooking Around the World with Marcela Gerber and Sarah Grip, and Painting with Susan Sanders. Middle School students are allowed to mix and match Daisy Den and classes to create a personalized schedule of after-school activities.

Lower School students are also given the opportunity to personalize an after-school schedule. Hockaday’s long-standing Happy Happenings program is a popular place for Lower School students to spend time with friends, to get a jumpstart on homework, and to participate in cooking, crafts, games, outdoor play, and more. After-school class options span a wide variety of subjects, such as Photography, Orff Music Workshop, Running Club, Engineering Adventures, Math Blast, Cooking, Drama, Chess, Yoga, and more. Parents have peace of mind knowing their Lower School or Middle School daughter is able to spend an extended day in a safe, supervised, and nurturing environment at Hockaday.
by: Dr. Barbara Fishel
Dean of Studies and
Upper School Science Instructor
The Hockaday science program has been at the forefront of exemplary practices in science teaching for over a decade, teaching Physics to our freshmen, advocating less-is-more as a curricular-development guideline, anchoring content within overarching ideas and essential questions, and converting traditional "cookbook" lab activities into open-ended, inquiry-driven explorations. At Hockaday, we aim to teach real science. Another aspect of teaching real science, though, involves creating opportunities for students to participate in research outside our classrooms as well.
Nearly a decade ago, we developed a general mechanism to match interested girls with a few laboratories in the area open to the idea of high school students actively participating in high-level scientific investigations by establishing connections with science and engineering labs at University of Texas Southwestern, Southern Methodist University, University of Texas at Dallas, and Scottish Rite Hospital. This has allowed a greater number of our rising seniors to gain independent research experience during the summer. Until recently, however, we had not met the needs of other interested and motivated girls in grades 8-10, as Dallas-area labs and programs are not set up to mentor younger students in individual research projects. To address this gap, we piloted two research projects at Hockaday in the summer of 2012 with the goal of providing practice in experimental design and the opportunity to gain laboratory experience for our younger Upper School students. Hockaday science faculty, Leon de Oliveira and Dr. Beverly Lawson in particular, assisted Ann Ojeda and me in helping students as we set up the program that first summer. Eleven girls joined us the summer of 2012, seven new girls continued the projects the following summer, and this July we had 12 freshmen and sophomores participating.

Each fall, all students who engaged in research over the summer, whether at Hockaday or in labs and programs in Dallas and across the country, participate in the Hockaday Summer Research Poster Symposium. The entire Hockaday community and the students’ mentors are invited to attend this event, circulating through the Hicks Meeting Room so they can view the posters and ask questions of the girls who produced them.
RED LIGHT RESEARCH PROJECT

I oversee one research investigation that is related to the finding that red light can speed up wound healing in animal tissues (humans, too!). The mechanism underlying this observation is not well understood. We are doing some preliminary experiments to test a hypothesis that the functioning of an evolutionarily-conserved protein is altered when it is hit by red light. This is an ideal beginning research project for students who are inexperienced in research, as it employs many basic techniques and includes learning to program an Arduino system to control LED function as part of building the experimental apparatus. The students have made good progress in setting up the system and measuring a variety of starting parameters.

“Although we did not end up with quantitative results that gave a definite answer to our question, intriguing data seemed to suggest that red light did make the bacteria grow faster. This research gave me a great background for understanding the basics of biology, which really helped when I took AP Biology my junior year. Presenting our findings at the Symposium also taught me how scientists collect and present their data to the science community.”

ELIZABETH MICHEL (Class of 2015)

GREEN CHEMISTRY RESEARCH PROJECT

Ann Ojeda oversees another project that involves research using ionic liquids which represent Green Chemistry at its finest. Ionic liquids (ILs) are currently used in biofuel synthesis, and are readily replacing conventional solvents as low-cost alternatives to many industrial processes in biomass processing and pharmaceuticals. Developing novel ILs and finding new and innovative uses for these versatile compounds is at the frontier of chemical research. We are employing ILs in the dehydration of fructose, investigating their activity in a variety of controlled experiments, and looking at new ways of incorporating ILs into well-established syntheses. Over the past two summers, the girls investigated different approaches to optimizing syntheses.

“In the summer of 2013, I had just completed my freshman year and was looking for a research opportunity. However, I quickly discovered that most research programs were only available to junior and senior students. Fortunately, after talking with Dr. Fishel, I was introduced to the Hockaday summer research program, which provides a unique opportunity for freshman and sophomore students who are interested in science.

“The 2013 program offered two different research tracks: chemistry and biology. I chose the chemistry research project, where I worked with Mrs. Ojeda to examine processes of fructose dehydration through which hydroxymethylfurfural (HMF) can be produced in high yield. In my study, I was encouraged to propose my own hypothesis, design my own protocol, analyze the data, and draw my own conclusions. In the lab setting, I practiced standard lab safety procedures, and learned how to perform many research techniques as well as operate specific lab equipment.

“The Hockaday Summer Research Program facilitates student-led projects. It not only gave us hands-on experience, but also helped us understand what is involved in the research process. This experience proved invaluable to me, both for my study of AP Chemistry and for my future endeavors in summer research work.”

LORI JIA (Class of 2016)
THE CENTENNIAL PROJECT
An Interview with Carlyn Ray

“\textit{The art of creation is beautiful. Creation starts with what? Dust? Sparks? An idea?}”

WHAT INSPIRED THE CENTENNIAL PROJECT?

Hockaday’s design of the Centennial Center focuses on the idea of combining science and art, embracing a multi-disciplinary approach to education and understanding that it is the way of the future. I was eager to do a project with these students that allowed them to design, create, participate, and watch their collaborative effort come to fruition, and the Centennial Project is a creative process involving all disciplines. From start to finish, scientific formulas, cutting-edge technology, mechanics of engineering, artistic design, and mathematical proportions all played critical roles in the success of the final product. These disciplines employed methods and generated ideas that complemented each other. It is a true STEAM (Science, Technology, Engineering, Art, and Math) project.

WHAT WAS IT LIKE WORKING WITH HOCKADAY GIRLS?

Being a woman in a male-dominated profession, I am happy to watch Hockaday’s young women seeing equal opportunity and optimism in any path they choose. The students’ questions are insightful, poignant, and courteous. I see them growing into women who think creatively and technically. Balanced. And I also see teamwork; they work amazingly well together and really thrive from each other’s ideas. The creation of Art can be the same.
journey as choosing one’s own path. As each Hockaday student expresses her individuality, opinions, and uniqueness in the collaborative process, together they rise and build upon each other. They strive on the differences that make them unique; yet, they have learned at a young age the value in working with one another to accomplish something bigger than one’s self.

WHAT WAS THE PROCESS FOR THE CENTENNIAL PROJECT?

The project began after I showed all of the Upper School students several examples of installation art with multiple materials, in nature, with light, and multi-media. Fine Arts students generated 60 different to-scale models of potential designs and video presentations, which were then voted on by the Class of 2014.

Next I visited the Math Department, where I worked with students on the shape of the units within the design. From a model where one inch equaled one foot, the students solved equations to see how big an individual unit should be and how many units could be in the space. I brought these designs and configurations back to the team at Carlyn Ray Designs. My metal fabricators, John Christian Designs, created two different models generated from the math students’ adjustments to the initial design.

Meanwhile, Hockaday’s Chairman of the Visual Arts Department, Susan Sanders, made sample glass tiles and panels for the units. The metal fabricators, Ms. Sanders, and I worked together to create a prototype of a single unit. From this, we were able to calculate the weight load for the mechanical engineer. This provided a clear understanding of the weight-bearing specifications that the architects would need to prepare the installation space properly. Connection points for hanging the structure from the ceiling and placement of an LED lighting system rounded out this first phase of the project.
Then the creation of the glass began! Within the design, students, faculty, and staff made individual tiles out of clay. They cast plaster around the clay to make a mold. The void left in the plaster upon removing the clay tile was then filled by each Hockaday artist with recycled glass from Carlyn Ray Designs’ studio. I demonstrated glass blowing, focusing on the different science concepts involved with glass. These concepts ranged from demonstrating thermal expansion to understanding the different metals needed to make color, i.e., gold makes red, cobalt makes blue.

Next, in the kiln, the glass melts to conform to the mold, and once cooled, the plaster is chipped away. This leaves the impression on the glass from the original clay model. The glass tiles will be placed in a continuous thread throughout the overall structure within the Centennial Project’s design.

**WHAT DOES THE FINISHED PIECE MEAN TO YOU?**

I am elated when I accomplish a goal with a team. There is a time when an individual strives beyond one’s self, while working with others, to accomplish a shared goal which would not be possible on one’s own. Working together as a team while valuing each other’s strengths, ideas, and participation creates an end result which far exceeds the product. In this piece, each unique tile is a part of the unified whole. This piece is only possible through a group effort, by the generation of different ideas, a collaboration of efforts from different students, faculty, and staff. This is what makes this sculpture unique to Hockaday. While the product of this creation will be installed in the Centennial Center for aesthetic enjoyment and, hopefully, inspiration, the learning process of this piece is what makes it so special. For in this collaborative process, our strengths are elevated, our minds are opened, and our patience is tested.

“Failures are a step toward success, and the ups and downs are part of the experience. To me, this is an amazing life lesson gained through a mesmerizing and educational material with a beautiful and impressive piece as the memento.”

CARLYN RAY LEADS DISCUSSION WITH HOCKADAY STUDENTS AT THE DALLAS ARBORETUM’S CHIHULY EXHIBIT
Excerpt from

A FIELD GUIDE to

AMERICAN HOUSES

(Preface) by Virginia Savage McAlester ’61
Published by Alfred A. Knopf, December 2013

Family Ties

The following two features were contributed by Hockaday alumnae: Virginia Savage McAlester ’61, renowned author and lifelong advocate of historical preservation with deep professional interests in architecture, and her daughter Amy Talkington ’88, an American filmmaker, screenwriter, and author.
Looking at houses today is even more interesting and challenging than it was in 1984, the year this guide was first published. Almost 80% of the houses in the United States today have been built since 1940, the date the first edition concluded its full coverage. Surprisingly, during the last 25 years there has been a reinterpretation and new building of most American house styles that existed before 1940. Knowledge of earlier architectural styles – both traditional and modern – is now a necessity for understanding new houses, not just historic ones.

The popularity of “rambling” Ranch houses was made possible by the country’s increasing use of automobiles. Streetcar suburbs in the early 20th century had relatively compact houses on narrow lots to facilitate walking home from the stop. As the automobile became the principal means of transportation after World War II, houses with narrow fronts could be replaced by sprawling designs on wider lots. Never before had it been possible to be so lavish with land, and the rambling form of the Ranch house emphasizes this by maximizing façade width (often broadened farther by attached garages).

Cliff May, the innovative Southern California builder, designer, and promoter, who had joined with California-based *Sunset* magazine to introduce Ranch houses to a larger audience, was a sixth-generation Californian. In 1946, May and the editorial staff of *Sunset* wrote, and the magazine published, *Western Ranch Houses* . . . It featured a number of plans and drawings on how to build new Ranch houses. National shelter magazines like *House Beautiful* and *House and Garden* began publishing Ranch-house articles in the 1950s.

These same magazines also contained numerous articles promoting a casual, family-oriented lifestyle for postwar families. In the hands of builders throughout the country, the Ranch became the favored way of experiencing this informality. Described as “middle-of-the-road modern” and “modern inside, traditional outside,” the Ranch style was also considered, both by lending institutions and builders, to be more acceptable to the American home-buying public than more dramatic modern designs. While in the 1950s and early 1960s architects occasionally designed Ranch-style homes, most favored Mid-century Modern styles such as the Contemporary. Home buyers, however, embraced Ranch houses and greatly enjoyed their modern amenities and large family rooms that were available for affordable prices.

**OVERALL**

- three small windows in door
- partial-width porch at entry (occasionally full-width)
- multiple window shapes and sizes
- broad low chimney
- corner window

**EXCERPTS FROM A FIELD GUIDE TO AMERICAN HOUSES (RANCH)**
TYPICAL ROOF-WALL JUNCTIONS

Earlier styles were generally defined by the types of decorative detail applied to their exteriors – on doors, windows, porch supports, wall surfaces, dormers, and roof-wall junctions. The Contemporary style rejects this approach and is instead more concerned with the space inside the house and the way in which each space relates to the outdoors. Therefore, the design is created from the inside out, with the attention not on details visible as one approaches the house, but rather on the functionality of the interior space and the integration of outdoor views... This approach confers a very spacious quality to the house, particularly important because of the small size of houses in the 1940s and 1950s.

SOME SPATIAL CONFIGURATIONS

EXCERPTS FROM A FIELD GUIDE TO AMERICAN HOUSES (CONTEMPORARY P. 630)

with panelized walls and windows (Japanese influence)

open eave, rafter exposed (very common)
open eave, rafters boxed (less common)
boxed eave (very common)
HE SAID IT: "I LOVE YOU." THOSE THREE WORDS EVERY GIRL DREAMS ABOUT HEARING. EVERY GIRL EXCEPT ME. I WAS TERRIFIED OF THOSE WORDS, AND HE COULD SEE IT ON MY FACE.
“It’s too soon?” he asked.

“No, I mean, yes, it’s just . . .” How could I explain I’d never said those words before? Not to anyone. Ever. Not even my parents. How could I explain I’d been moved from foster home to foster home for seven grueling years? How could I explain that, as obsessed as I was with the Romantics, I did not really believe in love?

I considered telling Malcolm everything, all these words and thoughts and feelings I’d kept to myself for so many years. I really did consider telling him, but right then we heard a faint crunching sound.

We froze.

“What was that?” I asked.

He lifted his finger to his mouth. I heard the sound again. Footsteps on fallen leaves. Someone sneaking up on us—probably campus security.

“I’m already in trouble with Mrs. Mulford,” I whispered. He blinked a few times, concerned. I hadn’t told him. He thought for a moment, then said,

“We need to split up. You go that way. I’ll go the other way and try to distract them. Okay?”

I nodded.

“Now!” he urged.

I jumped up and ran back the way I’d come. Around the graveyard, under the pines. Too scared to look back. A vision of being sent back home flashed into my mind. I couldn’t do it. I couldn’t go back. As horrible as Wickham Hall could be, it was better than home. I had my studio. I had Malcolm. I ran for my life.

I paused at the old well to catch my breath. I told myself how silly I was—this was not life or death. How silly I was.

I LOOKED AROUND – NO ONE WAS COMING – SO I LEANED ON THE WELL, TRYING TO CALM DOWN. I LOOKED INTO ITS BLACKNESS... ABYSS.

SUDDENLY SOMETHING RUSHED UP FROM THE DARK, AND THAT COLD CHILL SLAPPED ME IN THE FACE. MY HEAD WHIPPED BACK FROM ITS FORCE.

AND THAT’S WHEN EVERYTHING WENT BLACK.
2014 graduates enjoy Hockaday’s 100th Commencement, where the tradition of wearing colored hats was revived.