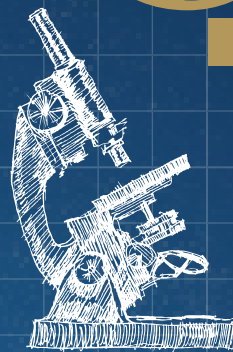
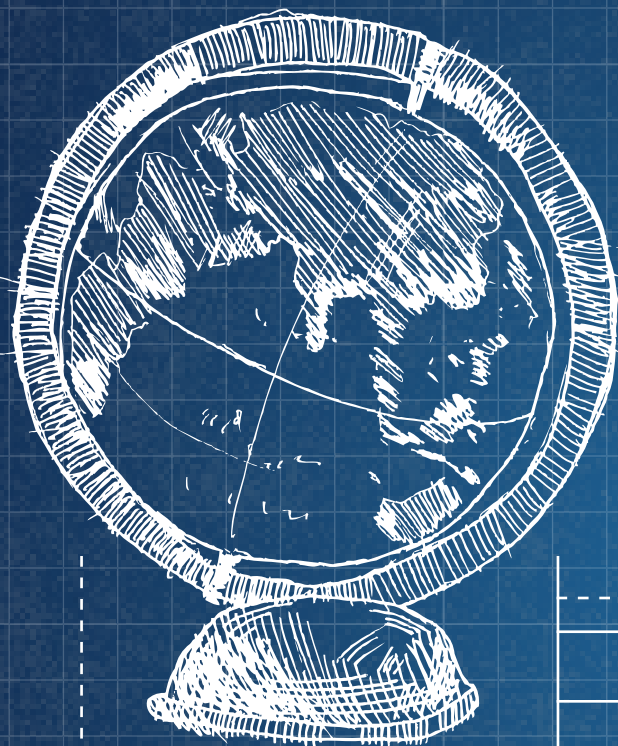


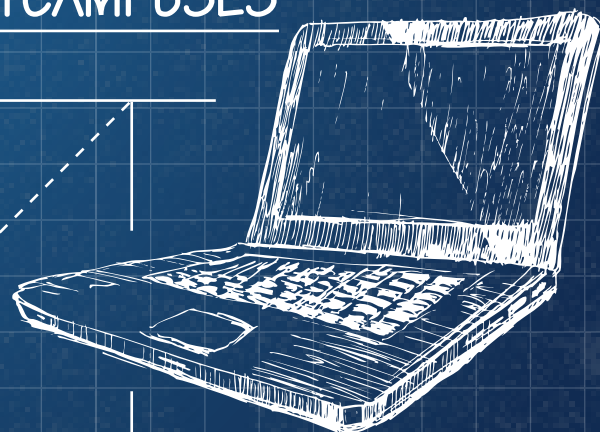
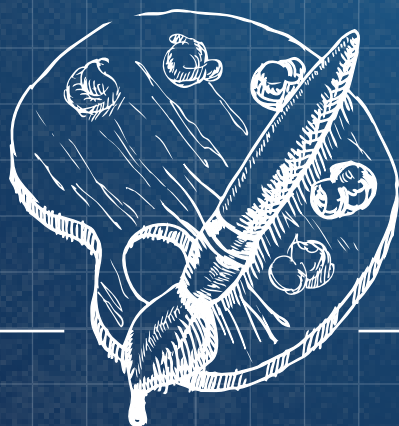
PRINCIPIA PURPOSE

SUMMER '15



BLUEPRINT FOR PROGRESS:

NEW AND EXPANDED PROGRAMS
ON BOTH CAMPUSES



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Dear Reader,

With the completion of yet another growth-filled year at Principia, I am seeing the powerful truth of Mary Baker Eddy's promise that "progress is the law of God" (*Science and Health with Key to the Scriptures*, p. 233).

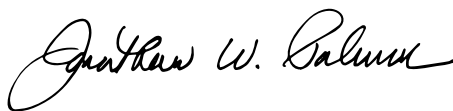
We've been putting the finishing touches on several important new programs and expanding others that have already proven their usefulness. We are encouraged and excited about these new developments—and especially about the benefits they will provide our students. So this issue's cover story is devoted to sharing details about some of these new and expanded programs on each campus.

We always like to let you hear directly from the people making education happen here. Toward that end, we're launching a new faculty profile column with this issue, featuring Lower School's fifth grade teacher, Heather Tibbetts (see p. 16). You won't want to miss getting to know her.

Also in this issue are profiles of six graduates, beginning on page 37. While these remarkable students represent the best of Principia, they're not in a class by themselves. We have a terrific student body on both campuses and wish we had space to introduce you to more of this year's graduates!

After our students graduate, exciting things happen as they step out into the world, finding individual ways to give. Three of our wonderful alums are featured in this issue. David Lovegren (US'73, C'77) is giving back to Principia by helping current College students and recent graduates interested in the film industry find their footing in Hollywood (see p. 10). Christian Koch (US'88) shares some of the lessons he learned at the Upper School that still stand him in good stead (see p. 12). And Eloise Quintanilla (US'04), featured in our Off to a Roaring Start column, tells how Principia faculty nurtured her interest in others across the globe, which eventually led to her current position with the Bill & Melinda Gates Foundation (see p. 14).

We're delighted to be sharing so much good news with you. Happy reading!



Jonathan W. Palmer (C'78)
President



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I would title this picture [on the right] of S. Sherman Clark “Enlightenment Guaranteed,” though I snapped it at a Sunday evening feed and fun time in the rec room of Buck House. Sherm was affectionately known as “The Itch,” perhaps because, when he was present, he could not be ignored! He was from Armonk, New York, and left Prin after his sophomore year. The image was reproduced in the Buck House spread in the 1953 *Sheaf* yearbook.

Enlightenment Guaranteed is also the title of a favorite film relating the experience of a couple of German “middle agers” seeking something more out of “the meaning of life” by enrolling in a monastery in Japan—something that recalled to me my experiences in Japan in the 1950s while serving in the U.S. Navy.

It’s been a quick 60+ years since that picture was taken!

Norwood “Pogo” Hazard (C’55)



Thank you for your helpful magazine. I have been reading it carefully for a few years and appreciate the innovation in education practiced at Principia, as well as the emphasis on character development.

I have two comments on your recent (Winter 2015) issue. First, I thought it was very insightful of Tony Saddington to recognize that “a 70/30 split between the time spent on reflection and time spent on the experience or activity itself” is vital (p. 26). I am glad Dr. Ritter, [dean of academics] at the College, saw the importance of this and is implementing it.

My other comment is more of a concern. On page 22, you quote John Lovseth as saying that “sound judgment and mindfulness are fundamental qualities to success” in his outdoor classroom. I agree with all he says—I just wonder if he really means “mindfulness.” While it is a wonderful word and seems to apply to much we try to accomplish in Christian Science, in recent years it has been used primarily to mean the mental practices taught in Buddhism. Just wanted to point that out.

Best wishes,
Brenda Evers



Photo Caption Contest Winner

“I wonder what’s for dinner!”
—Ed Hoiles (JC’56)



For the next contest, submit your caption for the photo above to purpose@principia.edu by October 1, 2015. The winner will be announced in the Winter ’16 issue.



Praise for Spring Production

Audiences for three performances of *Bye Bye Birdie* came away with smiles on their faces and admiration for Principians' talents and hard work. Several community members indicated that this was the best of the several stagings of this popular musical performed at the Upper School over the years.

Not only that, a local playwright shared glowing words for the actors in a letter sent via theatre arts teacher Liesl Ehmke (C'89): "I'm writing this letter to congratulate you all on the superb production of *Bye Bye Birdie*. What a wonderful night of theatre you created and executed. I have been in awe of what I saw on stage and have told a great number of my colleagues about the mass of talent that is growing at Principia."

Jerry Barnes Band Fund Launches

In April, Principia hosted a reunion of Upper School band alumni, most of whom had studied with Band Director Jerry Barnes, who led the Upper School band program from 1975 through 1996. Events included an alumni and student Pep Band performance, a luncheon with a slideshow and spontaneous sharing, an evening concert to benefit the Jerry Barnes Band Fund, an ice cream social, and a jam session that lasted well into the night.

The evening concert started with several jazz favorites, some of which the Upper School Jazz Band had performed in March during Arts on Tour in Seattle, Washington, and Portland, Oregon. Later, alumni and other guest artists—including Barnes's daughter, Devon (US'96)—joined forces with a combo of alumni musicians and friends of Principia. The Gary Dammer Big Band also performed. This event marked the launch of the Jerry Barnes Band Fund, which will support students' attendance at music camps and workshops.





Athletic Highlights

Here are a few notable spring victories:

- Junior Sean Hannan (above) pitched a perfect game—no hits, no walks, no base runners, no errors—against John F. Kennedy High School in the first round of the District tournament, resulting in a 6–0 win.
- Three Principians are making their mark in lacrosse, despite the fact that the Upper School does not offer the sport. Junior Cam Sellers and sophomores Max Bowen and Carson Alford play on the Parkway West Lacrosse Club team, which won the State Championship.
- The girls' varsity soccer team (below) won the District Championship with a score of 8–1.



Changes to Upper School Study Trips

In February, the Teton Trip (above), which links the study of science with art and creative writing, took cross-curricular learning to a new level. Instead of being offered as an option to any interested upperclassmen, this year's trip was incorporated into the curriculum for all students enrolled in Field and Natural History and Photo 2. As a result, both classes were able to undertake specific study before their departure in order to establish common understandings that deepened their learning while away.

The timing of end-of-the year class trips for freshmen (to New Mexico), sophomores (to the Dominican Republic), and juniors (to New England) changed this year as well, taking place a week earlier than usual. This way, students had time to complete trip- and curriculum-related projects upon their return. On the last two days of school, students shared their projects and portfolios with the community through talks and poster displays.

(For information on other trips, read about this year's service-learning trip to South Africa on page 34 and next year's outdoor education trips on page 29.)



Photo by Bruce Bollinger (US'71, C'75)



Pakistani Educator Visits Campus

Ziauddin Yousafzai (center), the College's 2015 Ernie and Lucha Vogel Moral Courage Speaker, inspired listeners in Cox Auditorium in late February. An educator and activist who peacefully resisted the Taliban's efforts to shut down schools in Pakistan's Swat Valley, Mr. Yousafzai began formally educating his daughter, Malala, when she was quite young. After she, too, became active in the fight for schooling for girls, a gunman boarded a school bus and shot her at point blank range in 2012. Instead of silencing her, the gunman magnified her voice. Malala regained her health and strength, and in 2014 she became the youngest recipient of the Nobel Peace Prize.

Mr. Yousafzai is board chairman of the Malala Fund, which he and his daughter co-founded to empower girls worldwide through education. He also acts as the United Nations special advisor on global education and the educational attaché to the Pakistani Consulate in Birmingham, England. During his talk, Yousafzai explained how events in Pakistan propelled his fight for girls' education. He also spoke about progress that has been made, such as the ratification of Pakistan's first bill granting all children the right to education.

In addition, Yousafzai visited several classes, where he provided historical and geopolitical context for issues in the Middle East and discussed with students the difference between education and indoctrination.



The 66th Annual Public Affairs Conference

One of two student-run conferences on campus, this year's Public Affairs Conference, "Social Entrepreneurship: Where Inspiration Meets Innovation," brought to campus a wide range of speakers who are pursuing innovative solutions to social problems. Three Principia alumni were among the group: Rob Herget (US'81, C'85) described his launch of Monkey-Dough, a discount shopping and fundraising initiative; Juliana (Ko, C'08) Arsali, founder of the Thoreau Community Center, discussed her work with Navajo youth; and Kathryn Barnes (US'83, C'87), project manager and business director of College Summit, spoke about helping low-income students get to—and succeed in—college.

Tennis Highlights

The St. Louis Intercollegiate Athletic Conference (SLIAC) named senior Jason Wissman and junior Hanne Andersen Player of the Year for men's and women's tennis, respectively. In addition, Casey Reynolds (C'80), the men's tennis coach, won SLIAC's Coach of the Year honors for the second year in a row.

Dance Production Features Innovation and Collaboration

In its entirety, this year's Dance Production featured 40 student and alumni dancers, showcasing ballet, modern, lyrical, and African dance styles. Among the offerings were two notable new pieces. The first, *CHINBOBLESS*, was choreographed by former American Ballet Theatre (ABT) dancer John Gardner and performed by former ABT prima ballerina Amanda McKerrow and student dancers. The music for *CHINBOBLESS*—Johann Sebastian Bach's Brandenburg Concerto No. 3—was performed live by the College organist, Dr. Rose Whitmore, on Principia's 3,069-pipe Casavant organ.



Also included in the program was the new dance *Quantum Quirks*, inspired by the concepts of quantum physics. This piece was a unique collaboration between Dr. Laurance Doyle, director of Principia's Institute for the Metaphysics of Physics; Jim Hegarty (C'76), director of academic special programs and a former music professor; and dance professor Hilary Harper-Wilcoxon.

Student Presentations at Conferences

Six students from the Political Science, History, Sociology and Anthropology, English, and Physics Departments presented papers at conferences this spring:

- Madison Flannery (C'17) read one of her short stories and Jessica Wingert (US'11, C'15) read three of her poems at the National Undergraduate Literature Conference in Ogden, Utah. Both are also among the six authors (chosen out of roughly 200) who will be published in the host university's literary journal.
- Political science and history double major Briggs DeLoach (US'11, C'15) delivered his paper on genocide at the National Conference on Undergraduate Research held near Spokane, Washington, and political science major Shontee Pant (C'16) presented her research on factions in the Chinese government at the Midwest Political Science Association Annual Meeting in Chicago, Illinois.
- Sociology and anthropology major Kirsten Wright (C'15) presented her paper "Sex Trafficking in Latin America" at the Northeast Ohio Undergraduate Sociology Symposium at Kent State University.
- Physics and philosophy double major Shea Cheatham (C'15) won first place for her presentation on computational fluid dynamics at the Spring 2015 Illinois Section of the American Association of Physics Teachers, held at Principia College.

Dr. Elise McCurties Wins Teaching Award

This year's recipient of the Horace Edwin Harper Jr. and Evelyn Wright Harper Award for Teaching Excellence is history professor Dr. Elise McCurties, who joined the faculty in 2009. This is not her first teaching award. Just two years after her arrival, McCurties, who teaches American and Latin American history, was named Teacher of the Year by student vote. She also won teaching excellence and student achievement awards at Michigan State University, where she was a graduate student.

Actors Share Their Love of the Bard

Five professional actors, with credits ranging from Shakespeare's Globe Theatre to film and television, held a one-week residency on the College campus in February. The group, called Actors from the London Stage, led interactive workshops on voice and movement, directing, and stage combat, while cultivating an appreciation of Shakespeare's works. Principia was the fourth college in the group's tour of seven campuses across the United States.

The residency culminated in full-length performances of *Macbeth* on both the College and School campuses. Using minimal props and costumes and innovative staging, the five-member ensemble played 28 different characters, showcasing their own talent while maintaining the focus where it belonged—on the Bard's words.

Awards and Achievements

School



Robotics Team Competes Successfully

In its second appearance at the annual FIRST Robotics Competition, Upper School's Optimus Prin team—and robot “Bolts”—placed fourth out of 43 teams totaling nearly 1,600 students. Although this placement at the regional rounds was not enough to get them into the next stage of competition, they did qualify for the Missouri State FIRST Robotics Competition in Sedalia. There, they were invited to join a three-team alliance for the semifinal and final rounds—and their alliance won first place!

State Wrestling Recognition

Sophomore **Caleb Kelly** won third place at the State wrestling tournament.

Junior Wins Science Award

Andrew Schueler (US'16), a member of the Upper School robotics team, received a Distinguished Achievement Award for Excellence in Science from the University of Missouri-St. Louis (UMSL). He was among a group of select juniors from 60 high schools

honored by UMSL for academic achievement and contributions to their schools' STEM programs. Andrew has represented Principia in several robotics and computer programming competitions, and he worked this spring on a 3-D printer/protocol for his Eagle Scout project.

Top Music Ratings in State Competition

In April, all nine Principia students who performed at the State music competition sponsored by the Missouri State High School Activities Association earned the highest possible rating—Superior. Congratulations to these fine musicians:

- Sophomore **Haydn Jones**, violin solo
- Junior **Daniel Cornell**, French horn solo
- Percussion ensemble—junior **Ryan Eisenauer**; sophomores **Denny Veidelis** and **Cameron Wood**; and freshmen **Brittany Barthelmess**, **Liam Frager**, **Jaxen Halsey**, and **Kevin Wingert**

Upper School Artists Exhibit Work and Earn Awards

Artwork by 12 Upper School students was chosen from among several hundred entries for the 2015 St. Louis Young Artists' Showcase. In addition, juniors **Libby Lewis** and **Christina Safronoff** received awards. Libby's color photograph (top right) won the Richard Silverman Memorial Prize in Photography, and Christina's watercolor was selected for an ArtMart Honor Award.



College

NCAA Track and Field Success

Junior **Conrad Bollinger** placed fourth in the nation in pole vault in the NCAA Division III Outdoor Track and Field National Championships. His highest jump was 5.09 meters (16' 9.5"), which was a personal best and set a school record.

Mediation Team Competes at the Graduate Level

Principia's mediation team competed so well in the fall that they earned a berth in a graduate-level competition in the spring. Their strong showing in this advanced arena resulted in four Top Ten finishes at the International Law School Mediation Championships held in March at Drake University in Des Moines, Iowa.

Athletic Conference Hall of Fame Inductees

In May, the St. Louis Intercollegiate Athletic Conference (SLIAC) inducted two Principians—**Yaw Danso** and **Lee Ellis**—into the 2015 Hall of Fame. Yaw Danso (US'06, C'10) earned All-Conference honors all four years on the men's soccer team and was SLIAC Player of the Year in 2009.

Principia College Athletics Director Lee Ellis was inducted in recognition of his service as head coach of women's soccer for 14 years, during which the team won four SLIAC championships, three tournament titles, and three national tournament bids, as well as five Team Sportsmanship Awards and 14 Team Academic Awards. Ellis was SLIAC Coach of the Year eight times.



Solar Car Team Recognized in Abu Dhabi

Principia College's latest solar car, Ra 9, placed sixth out of 15 teams at the Abu Dhabi Solar Challenge, a three-day, 1,200-kilometer race through urban and desert landscapes. In addition, Principia was the unanimous choice for the International Solarcar Federation's

Quiet Achiever Award, presented to the team that best represents the mission of the Federation and the spirit of the competition. Also, Principia and the Petroleum Institute shared the Shell Innovation Award, which recognizes "... outstanding technical ingenuity along with optimal use of new materials, components, and inventions."

Alumni

Dale Ruthsatz (US'58)

In March, St. Louis Mayor Francis Slay held a reception recognizing urban planner Dale Ruthsatz for his 50-year contribution to the city's development. Ruthsatz has held a variety of positions in city planning and commercial development, leading to his current post as deputy executive director of the St. Louis Development Corporation.

Candy (Alt, US'66) Crowley

The Press Club of Metropolitan St. Louis has chosen Candy Crowley, former CNN political correspondent

and anchor of *State of the Union with Candy Crowley*, to receive its Lifetime Achievement Award.

Virginia (Huerlin, FS'73) Cross

Nicknamed "Flipper" for good reason, Virginia Cross won 14 gold medals in swimming events at the 36th Annual St. Louis Senior Olympics in May.

Jonathan Gibbs (US'90, C'94)

The Academy of Motion Picture Arts and Sciences honored Jonathan Gibbs and two colleagues with the 2015 Technical Achievement Award for the design

and implementation of the Dream-Works Animation Foliage System, developed to make the animation in *Shrek* more lifelike. The system was also used for *How to Train Your Dragon 2*, a 2015 Academy Award nominee and winner of a 2015 Golden Globe.

Heidi Katz (C'14)

Recent graduate Heidi Katz has been chosen for a 2015–2016 Fulbright U.S. Student Award. An English and education double major, she will spend the year in Finland studying the Finnish education system and representing the United States as a cultural ambassador.

David Lovegren: Film Industry Career Mentor

by Catherine Speer



A theatre arts major at the College, David Lovegren (US'73, C'77) relocated to Los Angeles after college to work in the film industry. There was no handbook, no predetermined career path; he simply had to learn on his own. Much to his credit, Lovegren charted his course successfully. After working at Disney Studio and producing a number of animated feature films, he is now the animation consultant for ProSight Specialty Insurance, where he helps films stay on track and within budget, monitoring their progress and troubleshooting when problems arise. His most recent project, *The Little Prince*, premiered at Cannes in May and will open in theatres in the U.S. in October.

If Lovegren has any say in the matter, Principia graduates won't have to start from scratch the way he did. For five years now, he has sponsored a spring break "externship" to introduce current College students and recent alums to the film industry and to help them establish connections. Affectionately known as the "Hollywood Abroad," the weeklong program is tailored to each group's participants. Over the years, they have toured most of the big studios in LA, met with significant industry personnel, talent agents, the vice president of animation at DreamWorks, and independent

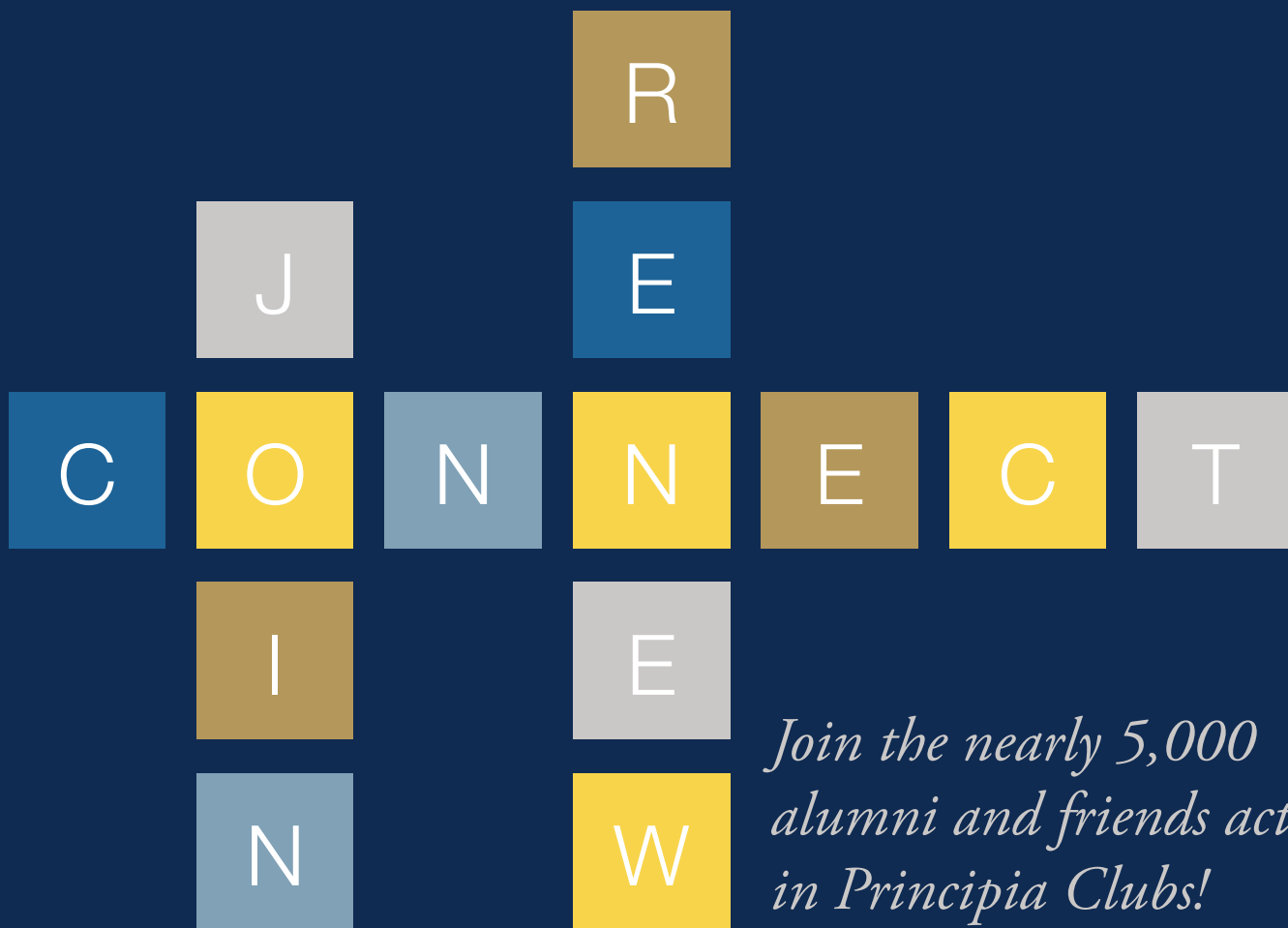
and documentary film directors. Groups have also visited The Kennedy/Marshall Company, an Academy Award-nominated production company, and one year participants met with the production assistant for the television show *90210* and spent the afternoon watching the filming.

Lovegren spends about a month organizing each externship, and he takes the week off from work when the group is in town. Typically, there are morning, noontime, and afternoon meetings or activities each day, and Lovegren always coordinates a dinner with Principia alumni in the industry. This not only enables the group to network, he notes, but also shows them "what it's like to be a Christian Scientist in the industry and hold to your values regarding the projects you accept."

Lovegren hopes externship participants take away these three key messages:

1. **Start TODAY.** "Do not graduate with just a degree," Lovegren admonishes. "Have a full résumé, portfolio, and demo reel that shows what you've done." Again and again, he asks students, "What did you do TODAY to prepare for your career?"
2. **Get internships.** Describing these as necessary, Lovegren tells the group, "You're building your network and have a unique opportunity to begin to build your reputation—and in this business, reputation is everything."
3. **Network NOW.** All participants walk away from the externship with contact information for everyone they've met. "Stay in touch, build those relationships," Lovegren urges. "Follow up on the initial face-to-face contact you've just had."

No surprise, those who act on Lovegren's advice jump-start their careers. One of last year's participants is working as a production assistant. And a 2015 grad lined up two interviews right after this year's externship. "Alumni need to make ourselves available, to recommend jobs and provide internships," Lovegren says, adding, "This is my way to give back." ■



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Early Training Forms a Lifelong Practice

by Christian Koch (US'88)

My story starts in 1984. I was 14 years old and had just completed the eighth grade. At the time, I was unhappy with my academic and social situation in Atlanta, so my parents suggested I look into attending high school at Principia

said goodbye. At that point, I faced the hard reality of my decision to leave my home in Atlanta and my parents' care in anticipation of a better experience. Looking back, all that comes to mind is WOW! I had no idea at the time how much my experience at Principia

meant training a child to think intelligently from the basis of divine Principle.

That first year, I learned an important concept about daily discipline. One of the requirements for all board-



Christian Koch (US'88, on the right) with his father, Don Koch (US'64, C'68), at the 2014 Harvard Business School Reunion Weekend

in St. Louis. A few months later, in early August, my father and I started the nine-hour journey together.

As we drove through Principia's front gate, I was extremely uncertain that I had made the right choice. After checking me into the Boys' Dorm, my dad

would change the way I thought and perceived the world.

One of the core concepts of a Principia education is developing the whole man—academically, spiritually, morally, socially, and physically. In that context, it was understood that true education

ing students was to read the weekly Bible Lesson for 30 minutes a day, beginning at 6:30 a.m. We were also required to have a family-style dinner most evenings at designated tables with structured conversations on a variety of topics.

By the time I graduated, Principia had succeeded in training me to think, perceive, and act based on Principle.

Sixteen years later I found myself in Cambridge, Massachusetts, at Harvard Business School (HBS), where the main goal is to develop business leaders who make a difference in the world. While there, I learned that leadership involves thinking clearly, acting with confidence, and being able to see pat-

based on real-world companies and situations, not on academic theory. As students, our goal was to determine the facts, understand the main themes and business dynamics, and come to a conclusion. We had to reach our conclusion and make our recommendation *before* we learned the case's actual outcome. Learning from this standpoint further developed the decision-making approach I'd learned at Principia.

“To this day, I am grateful for the early training at Principia that gave me the tools . . . to think and act from the basis of Principle.”

terns that others can't see. For example, I remember the first time I flew to San Francisco. It was a clear day, and from the window of the plane I could see the Golden Gate Bridge and Alcatraz. Two days later, when I flew back home, it was stormy and I could see nothing. However, I knew that the Golden Gate Bridge and Alcatraz were still standing, fixed. Similarly, we may not always have 100 percent visibility when we make decisions. However, knowing that the facts have not changed, despite the current picture, may help get us to the next steppingstone.

Harvard is well known for the case study method of teaching, which is

From my perspective, what we need most in our daily lives is the correct mental framework for tackling any issue. We need to assess the facts one at a time to see if they make sense, instead of taking them at face value. Listening and adhering to the “party line” can lead to backward steps. We each should make some assessment as to which “facts” are true and which should be discarded. Then we can move forward based on Principle.

Though I didn't fully realize it at the time, Principia helped me develop a five-step decision-making process that I continue to follow decades later:

1. Gather *all* the facts. Ask yourself, What are the facts?
2. Determine what is true and what is false or just opinion.
3. Take a moment and pause. Then be confident once you have determined a course of action.
4. Don't be afraid to make a mid-course correction if the facts or circumstances change.
5. Make *all* decisions based on Principle.

To this day, I am grateful for the early training at Principia that gave me the tools and cultivated the discipline necessary to think and act from the basis of Principle. The decision to take the leap of faith to attend Principia changed the direction of my life and opened up new ways of thinking that have been a great gift in my life. ■

What's *your* Principia story?

To submit a story (up to 800 words) about your Principia experience, e-mail us at purpose@principia.edu. Selected submissions will be edited with the author's permission.



Photos by Andrew Parsons (US'10, C'14)

OFF TO A ROARING START

Eloise Quintanilla—Taking a Global View of Humanity

by Phebe Telschow

“My interest in the world began with my family when I was very young,” says Eloise Quintanilla (US’04), who started at Principia as a lower schooler after her family moved to the U.S. from Mexico. But a special class and special teacher “helped me take the next step” into a career with global dimensions, she says.

Referring fondly to her Upper School Western Civilization class with Jim Evans (C’66), Quintanilla recalls him teaching history “through storytelling, weaving cultural, socioeconomic, and government topics together—which really helped me understand the bigger picture. It made me love history and gave me an abiding love of current events and journalism.”

“The best part of Prin for me,” Quintanilla says, “was, and still is, the teachers—including coaches, house moms, and all of the adults in the community—who all have high expectations but also commit to supporting their students’ success.”

Quintanilla is now an associate program officer at the Bill & Melinda Gates Foundation. She began there in 2011 as a writer and researcher with the Giving Pledge team, which encourages billionaires in the U.S. and around the world to commit the majority of their wealth to philanthropy. Today, her work at the Foundation is in the “communications shop,” where she focuses primarily on addressing world hunger, especially in Africa.

After graduating from the Upper School, Quintanilla attended Harvard College, where she majored in government. While in Boston, she did freelance work and interned with *The Christian Science Monitor* as well as with CNN en Español. In her senior year, Quintanilla won the prestigious NPR Kroc Fellowship, which annually provides three aspiring journalists with firsthand broadcast journalism experience. Kroc Fellows work at an NPR station and get hands-on training in every aspect of public radio journalism.

“The character education, the high expectations, and being exposed to a global view helped me develop into a multidimensional person.”

—Eloise Quintanilla (US'04)

During her fellowship, Quintanilla worked on NPR's *Week-end Edition* show and at a member station in San Francisco, reporting on a variety of topics, including immigration. She also served on the digital desk, where she turned radio stories into web content. She then moved to Brooklyn and worked with *National Geographic* before rejoining *The Christian Science Monitor* as media coordinator in the Washington, DC, bureau during the 2010 midterm elections.

Ready for something entirely different, Quintanilla again headed west—to Seattle and the Gates Foundation. “It’s an incredible privilege to work with such intelligent people who are doing everything they can to make the world better,” she says. “I’ve learned that simply giving money away isn’t nearly as important as *how* one gives money away. The point is to make an enduring, positive impact in the lives of the people you’re serving.”

Reflecting again on her time at Principia, Quintanilla comments, “I feel very fortunate for the investment my teachers made in me. The character education, the high expectations,



and being exposed to a global view helped me develop into a multidimensional person. It gave me such a strong base and enabled me to do what I’m doing now—helping others to live healthier, more productive lives. Prin is a close-knit community where everyone is rooting for your success, which definitely contributed to my ability to go on to a great career.” 📖

Note: Having retired a few years ago, Jim Evans (Quintanilla’s Western Civilization teacher) was back at the Upper School this past year, teaching a newly designed Senior Seminar course focused on global models of leadership.

Nominate a Young Alum

Our Off to a Roaring Start column features young alumni who graduated in the last 20 years and have had a significant impact on and/or demonstrated significant success in their professions or communities. Share the names of alumni you know who are “off to a roaring start” at www.principiaalumni.org/youngalum.



MEET HEATHER TIBBETTS Fifth-Grade Teacher Extraordinaire

For almost a decade now, Heather Tibbetts has been teaching at Principia School. Her creativity lights up the fifth-grade classroom as she engages students in project-based learning on topics ranging from Ancient Greece to the Pilgrims' voyage across the Atlantic. A highlight of the year is a spring trip to Jamestown and Williamsburg, Virginia, to study U.S. Colonial history.

Not surprisingly, Heather enjoys being a student, too. She will complete her master's in education with an emphasis on curriculum and instruction this August. "I love learning the latest theories and discoveries in education and applying them to my classroom!" she exclaims. For her capstone

project, Heather is exploring how self-assessment impacts student learning and achievement.

A graduate of the University of Michigan, Heather holds a Missouri State teaching certificate. As you'll see in her first response in our Q&A, however, her teaching "experience" began long before college.

Q. What led you to teaching?

A. I guess it all started, as it does for many teachers, with my favorite childhood game: "school."

I actually started college as an oboe performance major, but after spending two years focused on music, I was ready to pursue my first love—teaching. I switched my major to elementary education and spent the remainder of college preparing to be a teacher.

Q. What do you love about teaching?

A. There are so many things, but my favorite has to be witnessing daily progress in each student. It's inspiring to help students work through challenges, break seeming limitations, and make progress every day!

Q. What do you find most challenging about teaching?

A. The biggest challenge is my constant desire to make each year better than the last. Every year I push myself to make improvements and changes for the next year, which is a never-ending cycle. I never feel like my job is done!

Q. Can you share a character education moment that particularly stands out to you?

A. Each year, I aim to have the students give back to the community. I love witnessing the ways students naturally give to others and really embrace the idea of “seeking [their] own in another’s good” (*Science and Health with Key to the Scriptures*, p. 518).

One year our class was studying homelessness and thinking about ways to help address this issue in our community. One idea shared was having little baggies of toiletries and snacks with us to share with any homeless people we encountered when we went on field trips. The next day, one student brought dozens of supplies that she wanted to share with others. From those, our class created “blessing bags,” which we brought with us whenever we left campus.

One very cold January day, we were downtown at a science exhibit. The students all sat on the edge of their bus seats, eagerly looking for someone to bless. We shared the bags with a couple of men and left other bags on people’s sleeping bags and blankets that were spread out on the sidewalk. The students truly expressed the motherly Love that meets everyone’s human needs.

Q. What work would you pursue if you weren’t a teacher?

A. I would probably be playing the oboe full time. I’m able to stay connected to my love of music by playing in the St. Louis Civic Orchestra and teaching private oboe lessons.

“It’s inspiring to help students work through challenges, break seeming limitations, and make progress every day!”

—Heather Tibbetts

Q. What would people be surprised to learn about you?

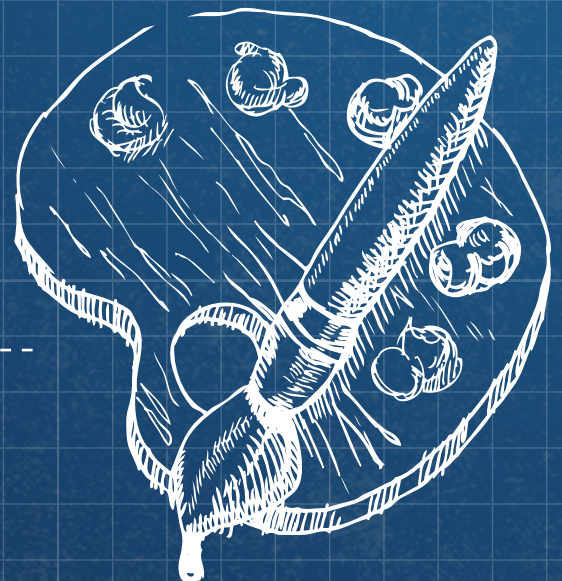
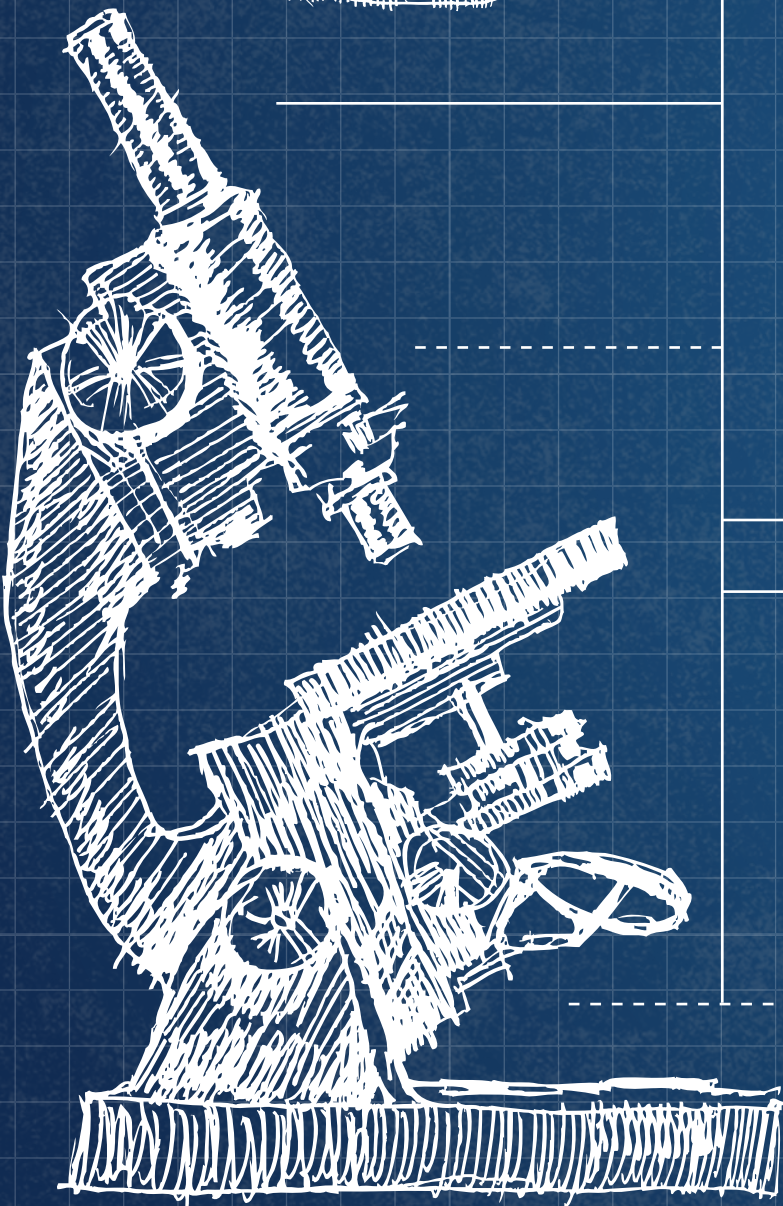
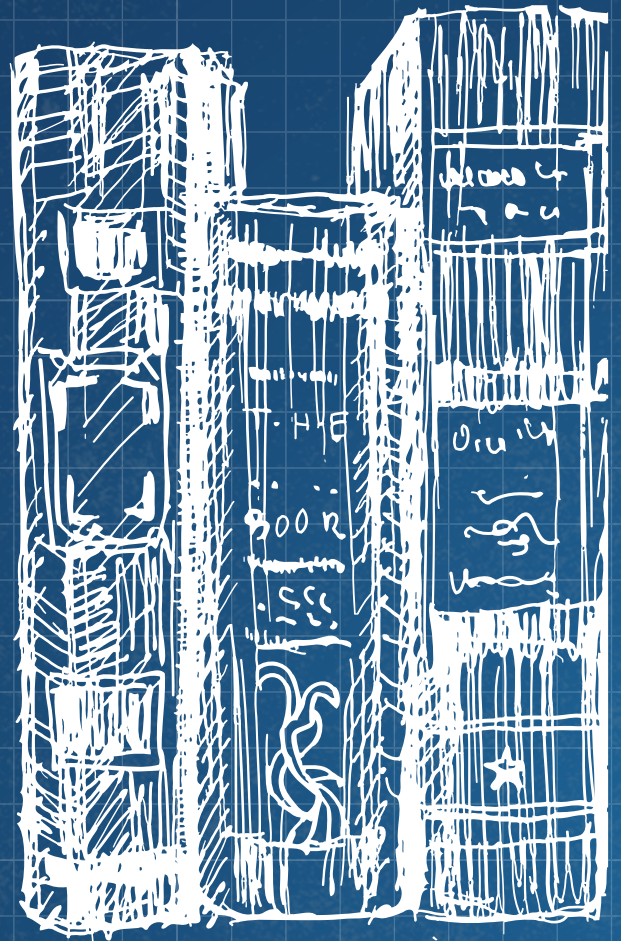
A. Even though I’ve lived in St. Louis for almost a decade, I still root for the Chicago Cubs over the St. Louis Cardinals. Shhhh, don’t tell my students!

Q. If you had a day off and weren’t allowed to use it to catch up on work, what would you do?

A. I would definitely be making homemade ice cream! I recently got an ice cream maker, and my favorite weekend activity is experimenting with new flavors. I have mastered a dozen decadent flavors. My favorite ones so far are chocolate malt and mint chocolate chip.

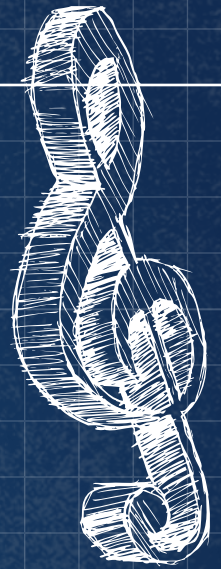
Q. If you could give students only one piece of advice, what would it be?

A. Embrace making mistakes! Students often want to be perfect and try to do everything right all the time. Those are great motives, but often they could learn more from making—and then fixing—their mistakes. ■



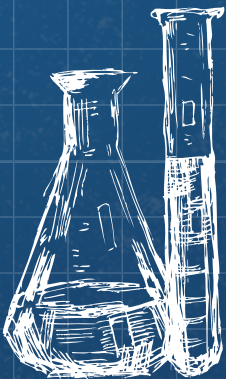


BLUEPRINT FOR PROGRESS:



NEW AND EXPANDED PROGRAMS ON BOTH CAMPUSES

Whether you're building from the ground up or expanding existing space, making it to the blueprint stage is a milestone. With preparation complete, the path forward is clear, and you shift into the implementation stage.



Principia has made that shift regularly for well over 100 years. One doesn't get from a two-room storefront to a dual-campus educational institution spanning preschool through college without leaving the old for the new again and again.

Undoubtedly, Principia's rapid growth in its first 45 years led to the inclusion of this directive in the institution's governing policies: "The Principia shall

expansion has entailed the purchase of property or buildings, the enlargement of the faculty, or the institution of new courses of study.

In every case the decision has been deferred until, through Christian Science demonstration, the conviction has come that the new development was a part of God's plan for Principia at that time. (*Education at The Principia*, p. 198)

Schools and colleges across the country, including Principia, are facing additional "changing world conditions." For example, incoming students' academic preparedness is increasingly uneven. Undergraduates' interest in engineering is expanding. Employers' (and families') expectations that students graduate with career-related work experience is growing. And for Principia, in particular, demographic shifts in the Christian Science movement

"The problem of education is ever before our thought, demanding successful solution. It is a demand we shall continue to have with us as human thought and experience unfold. To be progressive, education must constantly adjust itself to meet these changing conditions."

—Mary Kimball Morgan, Principia's founder

seek continuously to improve its educational facilities and business practices in order to keep abreast of educational progress and in key with changing world conditions" (Policy 11).

To ensure that "keeping abreast" always led to lasting progress, founder Mary Kimball Morgan restated her long-standing approach to change in 1945, just one year after the policy mentioned above was instituted:

At various points in the history of Principia, decisions have been necessary in regard to expansion or new developments. Often such

Fast forward to the twenty-first century: Students are digital natives, and the world is, literally, at their fingertips. Toddlers can swipe a screen more easily than they can turn a page, and too many high school students prefer communicating onscreen rather than face to face. In response, experiential education is on the rise, providing what global educator Malcolm McKenzie calls "a needed emergency service . . . a vital antidote to childhood and adolescent lifestyles that are increasingly virtual and insular" ("Rescuing Education: The Rise of Experiential Learning," *Independent School*, Spring 2013).

demand new approaches to fulfilling our mission—"to serve the Cause of Christian Science through appropriate channels open to [us] as an educational institution."

The articles that follow are a blueprint, so to speak, outlining program expansions already underway and new plans set to begin this fall. They offer a glimpse into the way Principia is "keep[ing] abreast of educational progress and in key with changing world conditions"—while at the same time ensuring that each new development is "a part of God's plan for Principia."



Students working on the College's solar car, a popular activity for engineering majors

A NEW ENGINEERING OPTION AT THE COLLEGE

by Trudy Palmer

An exciting addition to Principia's academic program begins this fall with the introduction of another way to earn an undergraduate engineering degree.

For over 50 years, the College has offered a 3+2 engineering dual-degree program. In this model, students spend three years at Principia, completing general education and introductory engineering classes, and then transfer to an approved university for two years of engineering course work. After successfully completing the five years, they earn both a BS in engineering science from Principia College and an ABET-certified* BS in a specific engineering field from the university providing the engineering course work.

This has worked well for students such as Cory Miller (C'05), a diesel powertrain engineer at Engineered

Propulsion Systems. As he explains, "The 3+2 dual-degree program and Principia's environment were very effective in preparing me for the technical demands of the University of Minnesota's engineering classes and, more importantly, in encouraging the character development that helped me identify my individual talents and learn how to work effectively with others and leverage their talents."

Truthfully, though, more students have *planned* to do the 3+2 program than have actually completed it. Many have found it hard to leave Principia their senior year for a variety of reasons—athletics, co-curricular activities, friendships, house loyalty, and so on. Instead, they have stayed at the College, majored in math or the sciences, and delayed engineering study until after graduation. >>

New Program Director

Chris A. O'Riordan-Adjah (C'99), the College's new engineering program director, is a professional engineer with nearly 15 years' experience in structural engineering and seven years of teaching experience, most recently in the Civil, Environmental, and Construction Engineering Department at the University of Central Florida (UCF). He holds professional engineering licenses in Florida and Michigan and won an award in 2002 from the American Society of Highway Engineers. He also won several faculty awards from UCF, including the College Excellence in Faculty Academic Advising Award.



Along with his BS in mathematics from Principia, O'Riordan-Adjah holds a second BS in civil engineering and two MS degrees—in structural engineering and quality engineering. He is also a member of several professional engineering organizations and the physics and civil engineering honor societies.

Starting this fall, students won't have to choose between staying at Principia and studying engineering. They will be able to earn an ABET-certified engineering degree *on the College campus*. With this option, students will spend five years at Principia completing a combination of on-campus courses along with engineering classes offered via streaming video from the University of North Dakota (UND). Principia faculty will support all aspects of the

they can have engineering *and* the full Principia experience. And those who make that choice will benefit from a broader, more well-rounded education than most engineering programs offer.

Typically, earning an undergraduate engineering degree leaves very little room for courses in the arts, literature, history, philosophy, or much of anything besides math and science. The result is a narrowly focused experi-

Forbes magazine reported late last year that engineering is among the top three majors most in demand.

distance learning experience, including attending the scheduled class viewings of the online courses and holding office hours. Students will also take two two-week summertime lab sessions at UND. As with the 3+2 program, after successfully completing this five-year, on-campus program, students will earn two degrees: a BS in engineering science from Principia College and an ABET-certified BS in civil, chemical, electrical, mechanical, or petroleum engineering from UND.

"THE BEST OF BOTH WORLDS"

Forbes magazine reported late last year that engineering is among the top three majors most in demand. Feedback from our own Admissions Office indicates growing interest among prospective students as well, with some choosing an engineering program at a university over Principia College. Now,

ence that can feel like going through college with blinders on. That certainly won't be the case at Principia, where broad-based intellectual exploration is valued—in its own right and for its practical benefits. The title of a recent *Washington Post* article says it all: "We don't need more STEM majors. We need more STEM majors with liberal arts training."

Dr. Joseph Ritter, the College's dean of academics (and an engineer himself), notes how unusual—and valuable—it is for students to be able to combine engineering study and liberal arts training. "Now Principia students can get the best of both worlds right here on our own campus," he comments.

**ABET, Inc., is the recognized accreditor for college and university programs in applied science, computing, engineering, and technology. This certification assures that programs meet the quality standards established by these professions.*

REINVENTING THE EDUCATION MAJOR

by Heather Shotwell

When the Illinois State Board of Education imposed new requirements on teacher certification programs several years ago, Principia took the opportunity to reconsider its approach to preparing the next generation of educators. In the end, the certification program was phased out and a new model developed.

Make no mistake—Principia College continues to prepare students for a future in the field of education! The Educational Studies Department offers two options, or tracks, within its major. Similar to the former certification program, the educational theory and practice track positions graduates to teach in independent schools or to enter certificate programs, where they can obtain a teaching credential in as little as one year. This year's graduates have a variety of plans lined up, from teaching in private schools to earning a credential to enrolling in master's programs in various education-related fields.

New last fall, the second track available in the educational studies major focuses on outdoor and experiential theory and practice, emphasizing educational theory, leadership skills, group facilitation, team building, character development, and outdoor, experiential, and environmental education. The program takes full advantage of the



An outdoor education student presentation on bald eagle nesting grounds along the Mississippi River

College's 2,600-acre campus, highlighting outdoor program design as well as safe and wise use of natural areas. Both this track and the educational theory and practice track develop strong skills in communication, critical thinking, experiential learning, inquiry-based teaching and learning, and leadership.

"We're very excited about what we offer our majors and minors," says department chair Lauren Hinchman. "Students are benefitting from the transferrable skills learned in our growing repertoire of courses. The feedback we're hearing from students, prospective employers, and colleagues in the education field is very positive."

VARIED APPROACHES TO LEARNING

Both educational studies options find synergy with other departments. This is particularly the case for the new outdoor and experiential theory and practice track, which requires students to choose among select courses in biology, history, chemistry, sociology, sustainability, and religion. In addition, Hinchman explains, "Students often choose to double major, which adds richness to their experience and certainly makes them more marketable."

Those in the educational theory and practice track gain firsthand knowledge

of different approaches to education by visiting a range of schools—from a public school in an urban setting to a private Waldorf school to an institution that specializes in Chinese and Spanish language immersion to another that serves children with special needs. All the while, students in both tracks are studying and practicing different educational philosophies and engaging in lively class discussion about the merits of each. In addition, the department frequently invites guest speakers to share their experiences—usually in person but occasionally via Skype. These opportunities offer a real-world perspective on various educational theories and their implementation in a variety of contexts.

>>

Professor Nikki Gamrath working with outdoor education students in Principia's woods



OFF-CAMPUS STUDY PUTS EXPERIENTIAL THEORY INTO PRACTICE

This June, students are traveling to the western United States with Hinchman as part of the department's Interpretive Communication class, a new course being offered this summer. They'll meet with park professionals in Yellowstone and Grand Teton National Parks to learn more about using storytelling as a teaching tool, relating to diverse audiences, and inspiring lifelong learning, curiosity, and the protection and preservation of nature. Since they'll be camping and cooking for themselves, students will also gain practical experience in the outdoors and become familiar with Leave No Trace methods and ethics.

Hinchman will also take students on a study abroad trip to St. Lucia and Grenada in January 2016 to study outdoor leadership and explore the mountains, rainforests, protected marine environments, petroglyphs, plantations, and villages that tell the story of the

islands' cultural history. Then, during spring semester 2016, Professor Nikki Gamrath, also in Educational Studies, will lead an abroad to Finland, with additional instruction provided by Hinchman and Dr. Karen Eckert, the director of Principia's Center for Sustainability. The group will study the connection between education and sustainability, learning firsthand why Finland is ranked number one in the world in education.

No matter which educational studies track students pursue, the program emphasizes Christian Science-based character education. "We see our students as fully capable and give them plenty of room to explore and grow," Gamrath says. "Our philosophy is in line with Principia founder Mary Kimball Morgan's vision that '... education is not only the acquisition of knowledge or truth but the ability to use that knowledge intelligently in a practical way for one's own good and for the good of his fellowman'" (*Education at The Principia*, p. 31).

PREPARING STUDENTS TO SUCCEED

by Heather Shotwell

Barely six months after the Trustees approved Vision 2020, Principia's strategic plan, the College is launching and expanding programs supporting the plan's third core goal: Nurture Success Beyond Principia. College funding for internships and summer research will enable a growing number of students to graduate with both a diploma and real-world experience in hand.

CAREER-RELATED INTERSHIPS

It's no surprise that students who graduate with experience in their chosen career find themselves a step ahead as they transition to life after college—and internships are one of the best ways to get that kind of experience. What's more, internships sometimes lead to job offers. At the College, for example, 57 percent of the Class of 2015 completed at least one internship, and 18 percent of that group received a job offer from the company or organization where they interned.

Sometimes, though, financial concerns make it impossible for a student to accept a low-paying or unpaid internship, no matter how well the opportunity matches his or her career interests. Beginning this summer, however, finances are less likely to stand between

Principia College students and well-matched, career-related internships.

Thanks to a new initiative, students may apply to the College for funding if the internship they're interested in pays less than \$800 a month. Applicants have to write an essay describing how their anticipated internship relates to their career interests and what skills they hope to obtain. A résumé and brief statement of support from a faculty member must be submitted as well. This first year, all qualified applicants—a total of 22—were awarded stipends.

The recipients represent nine majors and are interning across the U.S. and in England and Italy. The companies where they're working range from nonprofits to production studios, sustainability groups to schools, and museums to marketing agencies. No doubt, these students will return to campus with a clearer view of their career interests, in particular, and of the working world in general.

EXPANDING ON-CAMPUS RESEARCH OPPORTUNITIES

For those planning to attend graduate school, working closely with a faculty member—honing research skills and possibly co-authoring an article—may be preferable to an internship. Without funding, though, that kind of opportunity is a luxury. Not so this summer. Thirteen current students and recent graduates are receiving room and board on campus while working with professors on research projects ranging from trends in presidential politics to the breeding systems of grass species. Students applying to graduate school with this type of hands-on research experience stand out from the crowd!



Students applying to graduate school with this type of hands-on research experience stand out from the crowd!

Another bonus to this program is the close-knit learning community fostered among the students as they share their experiences formally and informally. Students will give a panel presentation about their research to Summer Session adult learners in mid-June. Then, in the fall, they'll present their findings to the campus community. Students will also have opportunities to interact with experts in institutions related to their research—an invaluable opportunity to develop professional contacts.

Last year, one professor-student pair piloted on-campus summer research. This summer's expanded program includes five professors—representing the Biology and Natural Resources, Theatre and Dance, and Political Science Departments—and 13 students! Ramping up so quickly signals not only the value of the program but also the College's commitment to students' post-graduate success. >>



INTEGRATING INTEGRATED STUDIES AT THE SCHOOL

by Armin Sethna

Over the years at Principia School, students have certainly engaged in learning activities spanning two or more disciplines. But these have tended to be occasional, short-term, and usually grade specific.

Now, in pursuit of the institution's primary strategic goal of strengthening educational excellence, integrated studies will be intentionally integrated into both the daily curriculum and teaching strategies across all levels and subject areas. This will not only help students see how ideas are connected but also help them understand a topic's broader context and encourage them to practice critical thinking, inquiry, and communication.

MAKING CONNECTIONS THROUGH MULTIPLE PERSPECTIVES

Though the shift to integrated, thematic learning reflects the times, it's far more than merely a trend. In particular, two key aspects of the way society works impel this change. First, the shift from an industrial economy to a globalized, knowledge economy has expanded the range and complexity of information and possibilities. This new economy demands individuals who are lifelong learners, able to absorb, analyze, and apply new information to a variety of issues and in a variety of contexts.

Second, and at a more basic and intuitive level, an integrated approach to

learning mirrors real-world living and learning in our increasingly interconnected world. Family, community, economics, and social life are interlaced and, often, interdependent.

"We cannot solve problems that are coming up in the world through one lens; we need to be able to look at and grapple with challenges through multiple perspectives," says Peter Dry, the Upper School assistant principal who is shifting, this summer, into the role of dean of innovation and academics for all levels at the School. Take a modern-day issue such as an oil spill, for instance. Such an event has causes, effects, and solutions that span environmental, industrial, commercial, social, political, and individual spheres.

“In order to solve problems such as these,” Dry observes, “a multidisciplinary approach is essential.”

Another key benefit of integrated studies derives from its project-based approach to learning, which rewards curiosity and encourages exploration. Since students are not graded in a traditional manner, they have the space to take intellectual risks, to be creative, and to test out new ideas (“prototypes”) without fear of consequences if the outcome they’d anticipated doesn’t work out exactly as planned. Similarly, the approach allows teachers more freedom to innovate, collaborate, and take purposeful risks in their choice of subject matter, methodology, and activity.

In addition, as education writer Douglas Cruickshank points out, “a happy by-product of this approach is that it tends to simply make school more interesting for both students and teachers” (“Kaleidoscopic Learning: An Overview of Integrated Studies,” www.edutopia.org).

PRACTICAL AND MEANINGFUL RESULTS

Students’ interest in school increases, in part, because of numerous opportunities for original research and hands-on projects (often completed in teams). Such projects can be tactile (planning and constructing a physical structure) or may include primary investigation and firsthand data collection and analysis. In many instances, the work results in >>

Integrated Studies in Action

One of the reasons Principia School can develop integrated studies more thoroughly and consistently across all levels is that a strong foundation of multidisciplinary, experiential learning already exists. Here are a few examples.

The **Upper School Tetons Trip**, initiated in 1982 by biology teacher Ted Munnecke (C’57), is a perfect illustration. Officially titled Creative Expressions in Nature, the trip links the study of science with art and creative writing. As the website explains, this “profound learning opportunity” arose from Munnecke’s belief that “every subject you study in school is connected to something else. . . . This trip is all about putting those links together.”

Student teams in the **Upper School Sustainability class** have collected and analyzed data and made presentations and recommendations to peers, faculty, and staff. For example, this past school year, the PaperCut team researched printer paper use at the School, its cost and environmental implications, and prospects for reducing it. The Bulb Busters team gathered data and evidence on the energy use and cost of different types of bulbs—incandescent, compact fluorescent, and LED. Their final presentation demonstrated the long-term savings and other benefits of switching to more expensive LED bulbs.

In the fall, the **third grade** learned about pioneer history and the geography of the United States through an extended simulation of the Oregon Trail. Then, in the spring, they worked

in teams to plan a modern-day road trip from the West Coast to the East Coast. After being assigned a specific interstate highway (I-90, I-80, etc.), each team had to research car rental options and pick an automobile; decide on points of natural or historical interest to visit along the way; and figure out how to allocate limited budgets for gas, lodging, and food.

In the process, they practiced their math skills, calculating daily mileage and costs for gas, food, and so on. They developed their research and presentation skills by creating informational posters on points of interest. They honed their writing skills with journals documenting their 15-day “trips.” And since they had to accomplish all of this in teams, they also got plenty of practice negotiating, listening, and working together effectively.

In the **kindergarten Market Day** unit, a long-standing tradition, students learned about Panama this year—its people, language, culture, and environment. Study included a visit to the Climatron at the Missouri Botanical Garden, where they learned about rainforests, and a make-believe airport adventure, complete with passports and a security check. Market Day itself began with a performance of a Panamanian folktale showcasing the children’s speaking, acting, dancing, and Spanish skills. Then they took their parents and visitors on a tour of all things Panamanian—a rainforest (with animals); a dwelling; a music center with instruments; and displays of flags, coins, and cultural memorabilia.

“In order to solve problems such as these, a multidisciplinary approach is essential.”

—Peter Dry, Dean of Innovation and Academics

“models” or facsimiles. And occasionally student-centered projects produce usable, lasting results and products that can benefit an entire community.

One example of integrated studies at Principia that benefits the community is the collaboration between fifth graders and Upper School Field and Natural History students (see photo on p. 26). Working together at a local stream, they observe, identify, count, measure, and record a wide range of data, which is then reported to the Missouri Stream Team initiative, a citizen-led conservation and protection effort. (For other such examples, see the Sustainability class’s projects described in the sidebar on p. 27.)

In fact, sharing results is an important part of almost all integrated studies activities. Sometimes the audience includes only teachers and classmates; at other times it extends to parents, community members, or even government officials. Either way, sharing one’s findings—and the process of arriving at them—not only develops students’ presentation skills but also solidifies what they’ve learned.

INTEGRATING THIS APPROACH AT THE SCHOOL

Not all integrated studies projects can (or should) be designed to meet a

community need, but they should all be grounded in actual experience. Such projects are already being pursued to varying degrees in individual classes at the School. However, doing so more widely and in the context of multilevel classes (see p. 30) will require professional development as well as access to financial and material resources. In addition, integrated studies requires a different approach to student assessment. Traditional test- and quiz-based grades can’t capture the learning that takes place when third graders plan a road trip or kindergartners “travel” to the rainforest (see sidebar on p. 27).

The School has hired Cadwell Collaborative, an experienced husband and wife team of educators based in St. Louis, to serve as consultants and coaches to K–5 faculty for the next three years. Ashley Cadwell co-founded and led the Green Mountain Valley School in Vermont before heading up The St. Michael School of Clayton, known for “personalized experiential education.” His wife, Dr. Louise Cadwell, brings nearly three decades of experience in elementary and teacher education to the team, including on-site research into the British school system’s integrated day.

The Cadwells advocate a credo of “lasting learning”—which engages the “whole self” and results in authentic,

high-quality, meaningful work. Achieving this requires several key elements:

- A well-designed learning environment with high-quality materials
- Meaningful inquiry-based projects through which students are expected to produce “exemplary work”
- Portfolio-based assessment and evaluation strategies (student journals, displays, recordings, videos, and presentations)
- Teacher collaboration or “de-privatized” practice, to ensure that educators consistently learn from their own and their colleagues’ experiences

Lower School Assistant Principal Dorothy Halverson (who is taking on the new role of director of Acorn, the School’s infant/toddler program) is excited about the School’s work with the Cadwells. While integrated studies “is not brand new to us,” Halverson says, assistance from Cadwell Collaborative will “help our activities become more authentic, experiential, and intentional . . . and enable cross-grade and even all-School collaborations.”

Both Halverson and Dry are quick to point out that the integrated approach does not mean there will be no “disciplinary” study. “Students still have to learn the foundations, the writing, the grammar,” Halverson says, “but they will be able to apply and practice those skills in the integrated part of the school day.” Dry concurs, noting that Principia “will not *not* teach disciplines. We will still teach the skills of a historian or a physicist—skills that have been developed over thousands of years—but we will teach them in different ways.” >>



Idaho



Washington State

New Trips Strengthen Character and School Culture

This fall marks the introduction of an outdoor-oriented approach to Christian Science-based character education through trips. Each Upper School class will spend a week exploring nature and experiencing the thrill of outdoor challenges—while strengthening their spiritual understanding and practice.

“These fall trips* are a ‘culture setter’ that’s very intentional,” explains Director of Experiential Education Brad Warrick (US’90, C’94). “They produce planned and spontaneous challenges, which build students’ confidence in their ability to turn to Christian Science and apply it together.”

Outward Bound, an established leader in outdoor education, will provide the

logistical and other resources needed for three of the weeklong adventures. Once at their locations, freshmen, sophomores, and juniors will break into smaller teams, each accompanied by two Outward Bound trip leaders and one Principia faculty or staff member.

Their destinations span the country:

- Freshmen—Backpacking and rock climbing in Washington State
- Sophomores—Whitewater rafting in Idaho
- Juniors—Coastal sailing or canoeing in Maine

The senior class will spend a week at the Leelanau Outdoor Center along Lake Michigan, combining Senior

Retreat activities with outdoor challenges and leadership opportunities.

As Warrick and others designed this new offering, they kept in mind Mary Kimball Morgan’s counsel: “True education is learning to look away from self, thus constantly broadening one’s mental horizon” (*Education at The Principia*, p. 6). Building on the selflessness, camaraderie, and spiritual confidence developed on these trips, students will be well positioned to further strengthen their sense of unity and community throughout the year.

**These new trips are an addition to, not a replacement for, the springtime class-level trips that are tied to the curriculum and, like these trips, included in tuition. Several optional academic and service learning trips are also offered for an additional cost.*

INTRODUCING MULTILEVEL CLASSROOMS THROUGH GRADE 5

by Armin Sethna

In the Lower School, the need for blueprints is literal. The decision to shift from single-grade classrooms to multilevel ones is bringing reconfigured learning spaces and playground updates. But more important than the construction underway is the quieter work that has been taking place for months as teachers prepare to engage a wider age range of students in their classrooms.

Starting in the fall, teams of two experienced teachers will collaborate in leading Pre-K (three- to five-year-olds), kindergarten and grade 1; grades 2 and 3; and grades 4 and 5. These lead teachers will be supported by assistant and specialist teachers in creating a learning environment where students can explore core and specialty subjects in groups, pairs, or individually at an appropriate, individualized level of depth and differentiation.

Here are a few of the benefits multilevel classrooms offer:

- Teachers and students (and students' parents) can develop deeper relationships and a better understanding of individual and group needs over a period of two years rather than one.
- A two-year curriculum cycle offers flexibility, time, and space for numerous in-depth study units and inquiry-based projects as well as spontaneous learning adventures and student-initiated exploration.
- Interaction between different ages or levels of learners impacts communication and social skills and offers many opportunities to learn responsibility to oneself and the group.
- A less time-constrained setting allows space for group and individual work, for learning to lead as well as listen, and for student-to-

student sharing that reinforces understanding.

- And, of course, a multi-age setting reflects the actuality of home and work life in the “real world.”

In short, the multilevel classroom recognizes learning as a continuous process in which children develop and learn at different rates as well as learn from and with different people. In a safe and intimate setting like the Lower School, multilevel classes also draw out a richness of participation and discussion that smaller, single-grade classes may not produce.

“The shift toward multilevel classes at the lower grades is a long-term strategy,” says Principal Travis Brantingham. “While enrollment numbers are part of the equation, they are not a predominant reason for the adjustment in approach.” Rather, as Brantingham points out, allowing students to learn without artificial barriers to their progress supports teachers’ practice of Principia Policy 3, which demands that each student be seen as unlimited in ability.

Jane Rieder, the retiring director of teaching and learning, also affirms the benefits of multilevel settings—based on her experience teaching in them. “The greater diversity of students in the classroom allows for a range of learners to flourish in different areas and to learn from their peers,” she notes. “And having two lead teachers provides more support, differentiation, and creativity.” ■



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TREAD WITH LOVE

A Look into India and Nepal through the Eyes of Meg Andersen (US'13, C'17)



1.

Sophomore Meg Andersen traveled on the College's spring semester India and Nepal Abroad, which focused on storytelling through the lenses of anthropology and philosophy. Meg also chose the literal lens. Sharing the stories of the people and places she encountered through photographs, she posted scores of striking images on her Instagram feed @treadwithlove. On April 25, just two and a half weeks after the group had returned to campus, a devastating earthquake hit Nepal, followed by strong aftershocks for several weeks. Grateful to learn that those in the 3 Sisters Adventure Trekking organization they had traveled with were safe, students sponsored a fundraiser to support the group's relief work in the country they had come to love. 🇳🇵



2.



3.



4.



5.

1. A holy man, or sadhu, looks out over the Hindu cremation site at Pashupatinath Temple. Dedicated to the god Shiva, the temple sits on the banks of the Bagmati River in Kathmandu, Nepal. It was not as severely damaged in the earthquake as many of the country's sacred and historic sites were.

2. This woman, outside of Pashupatinath Temple, agreed to have her photo taken in exchange for Nepali rupees—a common means of securing income.

3. A man sits on the street, a typical scene in one of the rural villages near Udaipur, a district in the state of Rajasthan, India.

4. A mother and child stand outside their home beneath the peaks of Nepal's Annapurna mountains.

5. A Sikh in traditional dress guards the community kitchen at the Sikh Golden Temple in Amritsar, India.

6. Girls visit outside of Pashupatinath Temple.



6.



STUDENTS PRACTICE GLOBAL CITIZENSHIP IN SOUTH AFRICA

by Armin Sethna

From its informal settlements to its suburbs to its wild savanna—in all these South African settings, a team of nine Upper School seniors had the opportunity to strengthen and apply the critical thinking, collaboration, leadership, and global citizenship skills that a Principia School education aims to develop. But that's only part of the way The Simunye Project service-learning trip benefits students.

The other way is equally important: while giving of their time, labor, friendship, and funds they had raised for the communities, the upper schoolers made cross-cultural connections and deepened their understanding of the uniqueness and universality of different cultures. They also grew spiritually by leaps and bounds as they overcame fatigue, heat, and feeling overwhelmed by the evidence of poverty.

“One of my biggest realizations on this trip was that giving is receiving.”

—Makena Patterson, US’15

“One of my biggest realizations on this trip was that giving is receiving,” says student Makena Patterson. “I went to South Africa to give, but I received so much more—countless memories, life lessons, amazing friendships, and one enormous life-changing experience. The meaning of Mary Baker Eddy’s quote, ‘Giving does not impoverish us . . . , neither does withholding enrich us,’ was truly solidified for me” (*Science and Health with Key to the Scriptures*, p. 79).

At the start of the trip, the Principians—along with approximately 30 students and their teachers from Huntingtower, a Christian Science-based school near Melbourne, Australia—helped repair, rebuild, and paint the premises of a community service organization on the outskirts of Soweto. They fed, rocked, and played with orphaned and abandoned infants and toddlers in an adoption home in Johannesburg. And they visited the impressive stadium that

hosted the 2010 Soccer World Cup and the home (now a museum) of former South African President Nelson Mandela, hero to many around the world.

In the process, they met and worked with several modern-day heroes—such as Susan Rammekwa and her team, who run the Tshepang Project, which supports over 300 orphans and vulnerable children and their families.

Upper School Assistant Principal Peter Dry met Rammekwa several years ago and, deeply impressed by her courage and commitment, started Simunye as a way to empower young people “with the skills and attitudes to make a real difference in their global community.” The Simunye Project (Simunye is Zulu for “we are one”) connected Tshepang with students from Huntingtower, where Dry was working at the time. Since then, Simunye’s reach has grown beyond Tshepang to include support for additional South African initiatives, all of which focus on caring for or educating children. And with Dry’s move to Principia last fall, the opportunity to participate opened up for Upper School students.

Dry and his wife, Samantha, both originally from South Africa, chaperoned the trip, along with Brad Warrick (US’90, C’94), the School’s director of experiential education. As the trip leaders

explained in a parent communication, “The Simunye Project endeavors to provide hands-on opportunities for young students to develop themselves in a setting that stretches them personally.” Each student was required to raise \$350 to go toward donations for the projects being supported. In addition, the team carried supplies of shoes and clothing donated by the Principia community.

After the initial week of working on projects in and around Johannesburg, the Simunye group traveled north into isolated, rural areas bordering the world-renowned Kruger National Park. They worked at a primary school and a day care center, building fencing, preparing plots for a school garden, and interacting with the children. They also spent a few days in the park, viewing and learning about African wildlife.

As they worked with these organizations and individuals in impoverished conditions, the group was often tempted to wonder, What can so few of us really do? “Many times it seems like one person, or even 45 people, cannot make a difference in the entire world,” observes student Kaylea Butler. “But our group proved that idea wrong. One person giving their all to a community, school, or little child not only [meets] the physical needs of the place or person but also gives hope to all touched by the work.”

According to the parents of one of the participating seniors, “Simunye has been a remarkable opportunity for our son. He’s learning that love has no boundaries and that helping others is deeply satisfying. Whatever he does with the rest of his life, we know that he will carry the lessons he learned from the Simunye experience with him.” ■

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The PRINCIPIA



Meet a Few of This Year's Graduates



UPPER SCHOOL

Josh Barthelmess

Wide-Ranging Interests and Achievements

A self-described “math and science guy,” Josh Barthelmess took every class the Upper School offers in these areas, including AP and honors classes. An all-around high achiever, he received six awards this year, spanning math, music, and athletics. This cum laude graduate will attend Rensselaer Polytechnic Institute this fall, where he plans to study physics.

Josh thrived in Principia’s music program, playing saxophone in concert band, jazz band, and the 2015 Arts on Tour, and saxophone and clarinet in the pit orchestra for spring musicals. At the Missouri State Solo and Ensemble competition his junior year, he helped his saxophone sextet win a Superior rating. “An expectation of excellence makes for a great music program,” Josh says. “And I appreciated the fact that, when our rehearsals were on Wednesday evenings, we included a testimony meeting to establish a strong

metaphysical foundation for each music activity.”

Josh played baseball all four years, making the varsity team his last two, taking his place on the pitcher’s mound and at first base. “Through baseball, I saw that competition can bring out the very best in people,” he says. “When the team hit rough patches, I recognized a lot of growth for all the players.” Josh also played basketball all four years and managed the varsity girls’ softball team this year.

A highlight of Josh’s Upper School experience was the Boston trip his junior year, when the class toured Mary Baker Eddy’s homes. “Learning about her life really inspired me,” Josh says. “I knew she’d had difficulties, but during the trip I began to really understand all that she went through to establish Christian Science.”

For his senior project, Josh brought his love of math to Principia’s Middle and Upper School classrooms as a student-teacher, creating lesson plans and helping students prepare for tests. “I wanted to help them express their God-given right to learn math,” Josh says. “And I had so much fun! It was amazing to see how quickly students learn. The experience made me consider the possibility of teaching someday.”

—Heather Shotwell



UPPER SCHOOL


Leigh Ann Weathers

Hard Work Uncovers a Passion

The summer before seventh grade, Leigh Ann Weathers moved with her family from Houston to St. Louis to attend Principia. She’s very glad she did, but she acknowledges the sacrifice involved: her father has been commuting to Texas for work for the last six years. “It’s had its ups and downs,” she admits, “because you love to have your daddy around, but Prin is so special a place that that’s what you do.”

Asked what she means by “so special,” Leigh Ann mentions the Christian Science atmosphere first. “It’s awesome to share the same faith with the kids in your school,” she says. Then she adds, “People are allowed to be themselves here, and the students respect the curriculum. I appreciate that a lot.”

English is one of Leigh Ann’s favorite subjects. She took two AP English courses, discovering her love for analytical writing in the process. She also enjoys the sciences, to the point of >>



taking both Biology and Marine Biology her junior year. The latter led to her senior project—working with sea turtle rescue and rehabilitation in South Padre, Texas. This project also gave Leigh Ann a head start getting to know Dr. Scott Eckert, a biology professor at the College and an expert on sea turtles. In fact, he's a big part of the reason Leigh Ann will attend Principia College this fall, where she plans to major in English and biology.

Leigh Ann played volleyball and basketball all four years at the Upper School and was in both the symphonic and jazz bands, playing alto saxophone and piano, respectively. But it was Spring Production that caused her to grow the most. After two years of being too afraid to audition successfully—or at all—Leigh Ann auditioned again last year (thanks to a teacher's encouragement) and was cast in a leading role. This year, she landed a lead as well. And both years, she sang solos—a far cry from being too afraid to audition!

"I've learned that fear holds you back," Leigh Ann says, "and I've proved to myself that I can do anything I set my mind to if I work hard for it. Production is where I've found my passion." That hard work and passion won Leigh Ann the Merrily Howlett Kimbrough Drama Award.

—Trudy Palmer



UPPER SCHOOL

Kaden Keller

Achieving the Division I Dream

Kaden Keller knew as a middle schooler that he wanted to attend a Division I university where he could play soccer at the highest levels of collegiate competition. By October of his senior year, that dream had become a reality—Kaden had signed on to play soccer at Michigan State University (MSU), one of nearly a dozen D I schools that had been approaching him since his junior year.

Although Kaden's performance on the soccer field these days makes the sport look easy, his journey to playing for the Michigan State Trojans was not without challenges. He recalls a time in seventh grade when the coach on his club team demoted him to another team. At first, Kaden was crushed. "I felt like quitting," he says. But he picked himself up and worked even harder to make it back to the top-level team.

Kaden's family moved to St. Louis when he was in the fourth grade so that

he and his three siblings could attend Principia. During Middle School, he realized that he had to up his game academically in order to meet the standards at D I schools. So he set about improving not only his soccer skills but also his GPA—with success on both fronts. "I had a lot of support from my teachers," Kaden says, and "my academic and college counselor was amazing, helping me throughout my four years at Upper School."

Among his favorite Upper School experiences have been the Community Service class and the numerous service projects he's worked on. "It was really special being able to get outside of Principia and give to other communities and organizations," says Kaden, who received this year's Sally Miner King Community Service Award. Another highlight was his participation in choir, through which he developed the skill and confidence to perform in Bistro Concerts.

For his senior project, Kaden investigated the concept of entrepreneurship and the qualities and characteristics of a successful entrepreneur. While he hopes to explore a number of academic options at MSU, he expects his major to be business related.

—Armin Sethna



COLLEGE

Vanessa Waller

Environmental Enthusiast

Vanessa Waller thrives on tackling large-scale environmental problems and finding innovative solutions through an interdisciplinary lens. She will carry this perspective with her to the Nicholas School of the Environment at Duke University, where she'll begin a master's program in environmental management with a concentration in water resources this fall.

Vanessa's major in environmental studies and minor in sustainability fit her perfectly. "I loved the interdisciplinary nature of this combination," she says, "and found that it connected ideas I was learning about in history, art, political science, and other areas of study." For her environmental studies capstone, Vanessa researched water quality in El Sah, conducting and analyzing water tests at various points within the wetland in the village.

As president of the Sustainability Club, Vanessa promoted zero waste

on campus and planned an Earth Day celebration. At graduation, she was recognized with the Mueller Environment Award for leadership in fostering better stewardship of the environment and the Phi Alpha Eta Award for the highest GPA in the College Class of 2015.

College wasn't only about academics for Vanessa, though. She ran with the cross-country team and recalls a Christian Science healing of an injury just before a conference meet. Vanessa also played flute in the College Orchestra and served on the Christian Science Organization board and her house board. "These activities added so much to my college experience," she says. "I love how Principia's culture encourages students to get involved."

The summer after her sophomore year, Vanessa interned at the U.S. Green Building Council-Illinois Chapter, and the following summer she volunteered at the Morton Arboretum Soil Science Laboratory. Then, during winter break her senior year, Vanessa went on the Dominica Abroad. Each of these experiences brought greater clarity about next pursuits, leading her to graduate school.

"I loved my years at Principia," Vanessa says. "I was challenged academically and experienced much spiritual growth. I'm confident that I can apply all I've learned to anything in the future."

—Heather Shotwell



COLLEGE

Jordan Anderson

Rugby, Peru, and Improv

Jordan Anderson, a 2011 Upper School grad, took many Principia memories with him after last month's College graduation. Top among them are three very special experiences—playing rugby, traveling on the Peru Abroad, and performing with Lazy Zipper.

Though he'd never played rugby before, Jordan quickly learned the game his freshman year. "Coach Patterson demanded a high standard of excellence in thought and action," he says. "Winning nationals my junior year was just incredible and was the manifestation of hard work." Jordan was named the MVP of that USA Rugby College 7s D II Championship.

During his sophomore year, Jordan went on the Peru Abroad, which he describes as "the best experience of my life!" His enthusiasm on this topic overflows: "It was such a cool group of people and an amazing country, rich with culture. A highlight was my home >>

stay because it was so interesting to get to know a local family. The abroad was full of unforgettable moments like hiking through the Andes Mountains, riding a wild sea turtle, and exploring Machu Picchu. But what I gained most was an understanding of my role as a global citizen.”

All four years at the College, Jordan found a creative outlet in Lazy Zipper, Principia’s improv comedy group, where he learned that the secret to a successful performance is being a good listener. “I saw the infinitude of creativity, always finding new material and new scenes over the years,” he comments. And his senior year, Jordan served as Reader for the Christian Science Organization testimony meetings, an experience he says, “will prepare me to take an active role in church in the future.”

Shortly after graduation, Jordan began summer employment as a leadership and character development coach at IMG Academy, a private athletic training institute in Bradenton, Florida. A mass communication major with an art minor, Jordan feels well-prepared for his next steps. “I’m grateful for the liberal arts education I received and feel I have a very strong foundation,” he says.

—Heather Shotwell



Shirley Moihloe

“I Hope to Share What I’ve Learned”

A passionate advocate for economic development the world over, but particularly in sub-Saharan Africa, Shirley Moihloe has boundless determination to make a difference. After graduation, Shirley went to Boston to work at The Mother Church with plans to return home to South Africa in the fall to put her political science major and economics and business administration minors to work at an intergovernmental organization. After working for a few years, she looks forward to studying international economic development in graduate school.

Involved in many corners of the College, Shirley was co-director of the International Perspectives Conference, president of the Black Student Union and Friendship Around the World clubs, and co-host and co-producer of the Principia Internet Radio show *Blunt and Black*. The quality of that radio program was a deciding factor in the

hosts’ receipt of an award for promoting multicultural understanding at the College. Shirley was also a soloist for Christian Science Organization (CSO) Sunday services, served on her house board, and earned a Leadership Certificate from the Leadership Institute.

Deciding to try something completely new her senior year, Shirley performed in Dance Production and thoroughly enjoyed it. “All of my campus activities contributed toward my character education,” Shirley says. “I learned to treasure the interactions I have with others, to think critically, and to value good communication.”

The summer before her junior year, Shirley interned at The Mother Church with TMC Youth, working closely with the Christian Science Board of Directors on community events following the Boston Marathon bombing, among other special projects. Later, she worked as the CSO Midwest Representative, planning youth summits in Mexico and at CedarS Camps in Missouri. “Through these experiences and my leadership roles on campus, I’ve learned that it is in Christian Science that we’ll find lasting solutions to the world’s problems,” Shirley says. “I’m so grateful for my Principia education and hope to share what I’ve learned—to inspire people and make their lives better.” ■

—Heather Shotwell



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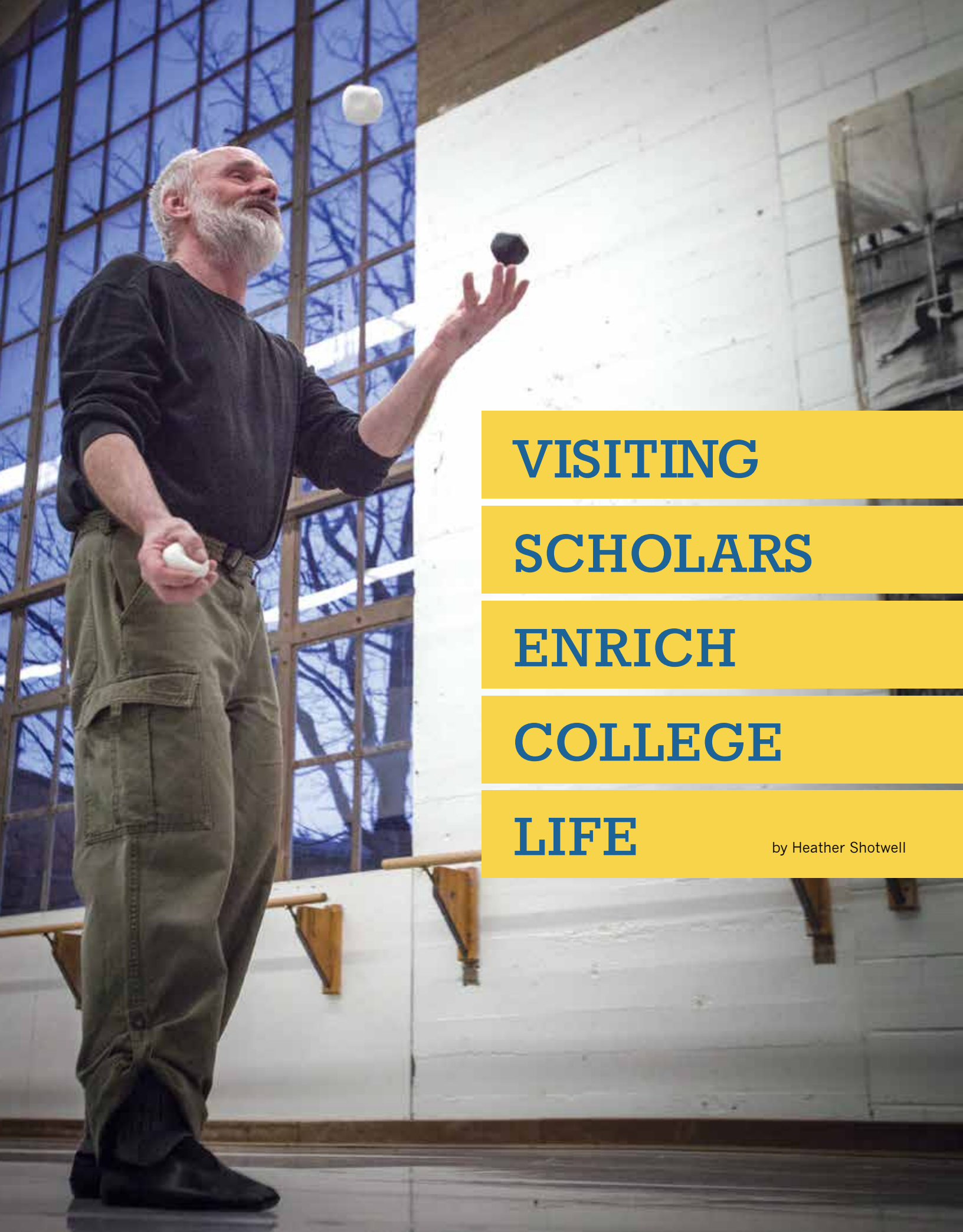
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VISITING SCHOLARS ENRICH COLLEGE LIFE

by Heather Shotwell

In 2006, the Annenberg Foundation awarded Principia College a \$1 million grant to endow a Visiting Scholars Program designed to draw leading scholars, diplomats, writers, and civic and business leaders to Principia for short-term teaching and speaking opportunities. Nearly 10 years and 10 visiting scholars later, the program has reached across disciplines to enrich student learning and engage the broader community.

Each scholar has brought a unique blend of abilities and talents to campus. This year's Annenberg Visiting Scholar, renowned playwright Russell Davis, taught a course entitled Creative Expressions and Faith and gave theatre workshops for students from a variety of majors. Engaging students in the intersection of religion and theatre, Davis encouraged them to think deeply and find their footing as writers. During his several visits to Professor Barry Huff's Wisdom Literature and Psalms class, Davis shared insights from his extensive experience writing creatively about faith, including his play *The Wild Goose Circus*. "Davis superbly supported students and provided helpful feedback while they wrote their own psalm, proverb, and creative response to Job in order to more closely read, appreciate, and relate to these biblical texts and genres," explains Huff (US'98, C'02).

A master juggler, Davis also held juggling and circus skills workshops on campus, explaining and demonstrating the art of balance and motion behind the craft. Upper School students benefitted from his expertise as well when he visited theatre arts classes and helped students prepare for performances of *Bye, Bye, Birdie* and an abridged version of *A Midsummer Night's Dream*.

Fostering Hope through Urban Development

A few years ago, internationally known architect Diane Haigh, who teaches architecture and is director of studies at Trinity Hall at Cambridge University in England, spent time at Principia College as the 2012–2013 Annenberg Visiting Scholar. Haigh has considerable experience in urban



Diane Haigh, Principia's 2012–2013 Annenberg Visiting Scholar

architecture, having helped with the 2012 Olympics infrastructure projects and the refurbishing of Royal Festival Hall in London. While at Principia, Haigh drew on that expertise, working closely with Professor Duncan Martin (C'76), chair of the Art and Art History Department, on a three-week, multidisciplinary study program called "Cities: Routes to Reinvention."

Joining with College faculty and students in economics, political science, religion, sustainability, and mass communication (as well as art and art history), Haigh conducted a series of seminars and field studies in conjunction with Old North Saint Louis Restoration Group, the organization guiding the revitalization of a historic area in St. Louis. The program culminated with presentations based on class visits to the Old North St. Louis neighborhood and a roundtable discussion, led by Haigh, featuring St. Louis professionals in community development, sustainability, preservation, higher education, religion, and the arts. >>

◀ Russell Davis, playwright, professor, master juggler, and this year's Annenberg Visiting Scholar



Author Susan Vreeland, the 2008–2009 Annenberg Visiting Scholar

Principia College Annenberg Visiting Scholars

Bill Moller, Emmy Award-winning broadcast journalist

Susan Vreeland, *New York Times* best-selling author

Greg Mortensen, Speaker, writer, and co-founder of the Central Asia Institute

Dr. Laurance Doyle, Astrophysicist and principal investigator at SETI Institute; founding director of Principia's Institute for the Metaphysics of Physics

Dr. Robert Bruegman (C'70), Historian and distinguished professor emeritus of art history, architecture, and urban planning at the University of Illinois at Chicago

Dr. Geoffrey Chase, Environmental sustainability specialist and the dean of undergraduate studies and director of the Center for Regional Sustainability at San Diego State University

Keith S. Collins (C'69), Journalist and author

Diane Haigh, Architect, director at Allies and Morrison architectural firm, and director of studies at Trinity Hall, Cambridge University

Charles Heck, Historian, senior fellow at the Center for Transatlantic Relations at the Nitze School of Advanced International Studies at Johns Hopkins University, and counselor at Washington Policy & Analysis Inc.

Russell Davis, Playwright, master juggler, professor at New Hampshire Institute of Art, and resident playwright at People's Light & Theatre

Elevating the Race “One Heart at a Time”

New York Times best-selling author Susan Vreeland was the College's 2008–2009 Annenberg Visiting Scholar. Internationally known for her art-related historical fiction, including *Girl in Hyacinth Blue*, Vreeland met with creative writing classes, gave workshops, spoke on campus, and addressed the larger St. Louis-area community at the Regional Arts Commission in the city's Loop District.

During her talk on campus, Vreeland described why she writes about art: “The spiritual uplift I've experienced after looking at a piece of art has been tremendously powerful. For example, I can't look at a Vermeer painting without feeling a wonderful sense of calm and peace—and feeling that, somehow, all is right with the world.” She further explained that writing about art enriches our understanding of mankind. “Each time we enter imaginatively into the life of another,” she noted, “it's a small step upward in the elevation of the human race—one heart at a time.”

Over the course of their years at Principia College, students interact with and learn from a set of exceptionally talented scholars and professionals they would not likely encounter all on one campus were it not for the Annenberg Visiting Scholars Program. And in one case so far, that initial connection has expanded to a more permanent tie to Principia. In January 2014, Dr. Laurance Doyle, the College's 2010–2011 Annenberg Visiting Scholar, became the founding director of Principia's Institute for the Metaphysics of Physics. Ever since then, he has spent several weeks on campus each semester—a development those who applied for and won Principia's million-dollar Annenberg Foundation grant couldn't have anticipated. ■

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In-House PROFESSIONAL DEVELOPMENT *Reaps Rewards* FOR TEACHERS AND STUDENTS

by Armin Sethna

“It’s so important to continually ‘sharpen the saw’ in order to be the most effective teacher you can be.”

“It’s great to get information that you can take into your class and use immediately.... My students and I are all benefitting.”

That’s how two pleased educators view the two and a half hours each week that every teacher at Principia School has spent engaged in structured, in-house professional development this year—an hour before classes on Thursday mornings (while students enjoyed a “sleep-in”) and an additional session after classes on Monday afternoons.

Most of these sessions have been led by Upper School Assistant Principal Peter Dry, supported by Director of Teaching and Learning Jane Rieder. Since the start of the academic year in August, a key focus has been reviewing, revising, and documenting the academic curriculum to ensure that it is meeting the needs of twenty-first-century learners. According to Dry, this ongoing, iterative process helps ensure “a common planning framework and a common language about teaching, learning, and assessment across the School,” which benefits continuity between grades and across levels.

Naturally, the process has also sparked discussion and a deeper exploration of what actually constitutes twenty-first-century skills, with the team often referring to the groundbreaking work of Dr. Tony Wagner of Harvard University’s

◀ School Principal Travis Brantingham speaking with faculty at a professional development session

Innovation Lab. Wagner's extensive research with business, nonprofit, and educational leaders indicates that, more than graduates with deep technical knowledge or "hard" skills, employers are looking for individuals who "can ask good questions," know "how to think," and are effective communicators.

The emphasis on thinking skills is, of course, a key Principia policy, which affirms the institution's dedication to "training its students to think—and to think clearly, vigorously, fearlessly, tolerantly, unselfishly." In fact, these characteristics of deeper thinking are embodied in what Wagner has identified as the "seven survival skills" today's students need in order to thrive in the future:

- Critical thinking and problem solving
- Collaboration and leadership
- Agility and adaptability
- Initiative and entrepreneurialism
- Effective oral and written communication
- Accessing and analyzing information
- Curiosity and imagination

Given these emphases, the teachers have been rethinking and reviewing their approach to framing "essential learning questions" that get students to this deeper level. Working in subject- or level-specific groups, the teachers have been developing, refining, and critiquing unit plans based on the essential questions and expected student outcomes—a process they'll continue in next year's sessions.

In many cases, the approaches themselves may not be new to faculty members, but this past year's twice-weekly emphasis *was* new. As one teacher put it, "It's 'in our face' every week, and that's a good thing," adding, "Being more intentional, more extrinsic, and more open to taking risks has probably been the biggest outcome for me."

The School is also enhancing faculty professional development with targeted external resources. Five teachers are currently pursuing master's degrees, and one administrator is seeking a terminal degree. In most such cases, Principia provides financial support toward the programs. The School also supports teachers' participation in conferences, which are excellent opportunities to learn from and share with professionals beyond our campus borders. ■



Photo courtesy of Shelia Hobson

Students' Gliders Lead to Teachers' Conference Presentation

In February, 12 School faculty and staff attended the Midwest Educational Technology Conference, and three Upper School faculty members—English teacher Jodi Fielding (C'86), physics teacher Kathy Foy (C'70), and math teacher Sheila Hobson—delivered a presentation on their cross-curricular unit with freshmen. Titled "Flying High with Interdisciplinary Learning," the presentation shared how the physics and math teachers combined their STEM (science, technology, engineering, and math) disciplines, and also brought in their language arts and social studies colleagues, to deliver an integrated STEAM unit (where the A signifies "arts.")

"I love the idea of promoting interdisciplinary activities, and I want my students to transfer their knowledge from one class to another," says Hobson, who suggested presenting at the conference. She and Foy used the online program WhiteBox Learning to take students through the process of designing, virtually testing, building, and again testing handmade balsa-wood gliders. By calculating for speed, velocity, acceleration, force, mass, and lift-efficiency ratios, students learned to apply algebraic equations and the principles of flight in both simulated and real-life settings. Simultaneously, in English class they studied "Rocket Man," a short story by Ray Bradbury, and in social studies they learned about the history of aviation with teacher Rich Eisenauer (C'83). During this unit, Foy and Hobson observed heightened interest and understanding among all students as well as increased mathematical and scientific confidence among many.



Doing What's Right— *Before You Feel It*

by Chuck Wilcoxen

Principia School and College faculty and staff hold a working session together twice a year. After hearing updates, they break into small groups to share ideas on a predetermined topic. At the Joint Staff Meeting in February 2015, the topic was character education. To kick off the meeting, several people gave brief presentations to the group as a whole. Chuck Wilcoxen shared the following remarks.

For good reason, I have very grave doubts about my ability to change someone's heart. Dr. Elaine Follis used to say, "Only God can change the heart," and the longer I work with students, the more I agree with her. I'm also beginning to better understand that there's nothing wrong with their hearts to begin with.

So, instead of trying to change the heart, there are times we simply try to influence how students conduct themselves. This week's Bible Lesson includes this statement from *Science and Health with Key to the Scriptures*: "Error of thought is reflected in error of action" (p. 550). Today, I'd like to pitch a variation of that—after all, what could go wrong with tinkering with *Science and Health*, right? Here's the variation: Could right action help develop right thinking?

Here's the experience that led me to this idea. We had an athlete who was truly a virtuous person in every sense of the word. He was generous, hard-working, demanding, and a person of great integrity. I continue to admire this athlete, and I still think about the lessons he taught me.

no debate. I put my hand on his shoulder and said, "Look, you don't have to *be* a good sport; you just have to *act* like one. Nobody'll know the difference."

To his credit, and my alarm, he trusted me. He walked over, hugged his competitor, and congratulated him. What

"By conducting himself rightly, he claimed the biggest prize of the day."

We were at a big, late-season meet, tuning up for the National Championships, and he unexpectedly lost his race to a young man who ran a perfect tactical race. It was very much the type of race that our athlete was used to winning. He was furious, just seething and crackling. His demeanor quickly and effectively established a no-fly zone around him—a perfect circle of electrified empty space. But I knew he could do better.

I walked up and said, "That kid just ran the race of his life. Go congratulate him." He looked at me like I was crazy and, with all due respect, said, "Nope. I can't." It wasn't that he was unwilling; he just couldn't do it. There would be

do you suppose happened? The warmth and appreciation he felt from his competitor just lit up the quality of Christian character that was, of course, already within him. By conducting himself rightly, he claimed the biggest prize of the day.

The little verb *do* turns out to be a big word in the language of character education. "*Do* unto others as you would have them *do* unto you," and "We are what we repeatedly *do*." ■

Chuck Wilcoxen (C'81) is the assistant athletic director at Principia College and the head coach of the men's and women's cross-country and track and field teams.

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