

THEORY TO PRACTICE

AN **INQUISITIVE REVIEW** OF CONTEMPORARY EDUCATION & HEALTH

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At the Cutting Edge

The College of Education's determination to provide leadership in the areas of education and human services has never been stronger than it is today.

As one of the longest-standing programs in the country, we continue to be at the cutting edge of social science research. In 2016, the College received nearly \$6.5 million in new research funding from the Department of Education, the National Science Foundation and the National Institutes of Health. Our faculty members conduct groundbreaking work in areas that include community health, language, behavior and literacy programs for preschool and elementary school children, interventions for those with Attention Deficit/Hyperactivity Disorder and the screening of children at risk in urban educational settings.

The work that our faculty members do is exciting and challenging. They work directly with our students and with schools around the world



to train highly skilled professionals and direct programs that can change the lives of children, and thereby change the world.

This past summer, the College has been an active partner in Lehigh's Mountaintop initiative, which allows undergraduate and graduate students to work across disciplines and independently pursue answers to open-ended questions. Mentored by members of the faculty, several student teams explored the refugee crisis, civic hacking, racial inequities in education and the use of technology to track time use, among other initiatives. This model of learning represents the future of higher education in the United States.

In this issue of *Theory to Practice*, we examine questions explored by our faculty and our students. How can educational systems help refugees who are struggling to start life anew in countries feeling the strain? How can teachers better engage students who are ever more culturally and linguistically diverse? Can wearable technology help in the evaluation of how principals use their time?

We also highlight the important work that the College is doing around the globe, from the Lehigh Valley in Pennsylvania to Cambodia, China and the Czech Republic.

We hope you enjoy this issue of *Theory to Practice*.

Gary Sasso

Gary Sasso

*Dean of the College of Education
Lehigh University*

EDU/STATS

Recently released data from the National Center for Education Statistics for school year 2013-2014:

- Among U.S. public school students, 9.3 percent (an estimated 4.5 million students) were English language learners (ELL).
- Five of the six states with the highest percentage of ELL students in public schools were in the West—Alaska, California, Colorado, Nevada, New Mexico and Texas.
- Spanish was by far the most common home language of the ELL students (3.7 million students), followed by Arabic and Chinese (109,000 and 108,000, respectively).
- Most of the students in ELL programs lived in more urbanized areas. On average, ELL students in cities made up 14.1 percent of the public school enrollment.

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Community Outreach

Pursuing Better Health

Julia Lechuga is the 'last critical piece' of Lehigh's Community Health Cluster, which will partner with area neighborhoods to collect data and find solutions to health problems.



In working on public health efforts in places as diverse as El Salvador and Milwaukee, Wisconsin, Julia Lechuga has seen first-hand the importance of gaining community members as partners in defining problems and implementing interventions.

"It's more bottom up, instead of the researcher coming to the community and saying, 'I have this idea, I want to collect data from you, I want to implement this to better the health of the community,'" she said. "Now you are starting the process with the community in the first place, and they are equal partners in the process."

Lechuga, an assistant professor of Counseling Psychology, joined the Lehigh faculty in Fall 2016. She is the "last critical piece" of the university's Community Health Cluster, said College of Education Dean Gary Sasso. The cluster will partner with area neighborhoods to pinpoint problems, collect data and find solutions.

Lechuga was born and raised in a bilingual household in El Paso, Texas, and speaks English, Spanish and French. She received her bachelor's, master's and doctoral degrees in psychology at the University of Texas at El Paso and was a National Institutes of Health/National Research Service Award postdoctoral fellow at the Medical College of Wisconsin in Milwaukee for two years before joining the faculty there as an assistant professor of psychiatry and behavioral medicine. In 2013, she accepted a position as assistant professor of psychology at University of Texas at El Paso.

Lechuga has been part of several NIH grants, including one to help educate families in largely Latino neighborhoods in Milwaukee on issues such as sexually transmitted diseases and birth control. She also helped the

Wisconsin Department of Health educate parents on the benefits of vaccinating their children against Human Papillomavirus (HPV), the most common sexually transmitted infection in the United States. In El Salvador, she used a grant to help communities develop plans to reduce the transmission of HIV by crack users.

The Community Health Cluster approach treats the community as collaborators rather than a subject to be studied, she said. It can take time to win the trust of neighborhood leaders, who need assurance that the work is more than an academic exercise.

"It's not only about data collection," Lechuga said. "They need to see that there is an immediate turnaround. They have the benefit of the community eventually owning whatever the intervention was they developed and sustaining it." ○





In the Classroom

Reducing Problem Behaviors

Lee Kern, director of the Center for Promoting Research to Practice and professor of Special Education, received a three-year, \$1.5 million grant from the Institute of Education Sciences to adapt Tier 2 behavior interventions for elementary school children. The team, which includes researchers from Vanderbilt University, will develop a framework to more easily identify and modify interventions to help children with mild to moderate behavior problems.

The project will be conducted in elementary schools in Pennsylvania and Tennessee. The team aims to develop ways to systematically identify and modify Tier 2 interventions within the context of a multi-tiered system for behavior support.

In a tiered system, students learn how they are expected to behave in school, with rewards for positive interactions and consequences for inappropriate behavior. Schools don't assume that students know what's expected, so every student receives Tier 1 interventions. Those who may need more instruction because they didn't respond to basic rules, rewards and consequences—about 10 to 15 percent of the school population—receive Tier 2 interventions, she said. Then, under Tier 3, students with the most needs—about 2 to 5 percent—get intensive, individualized supports to improve their behavior.

"There's a big leap between Tier 2 and Tier 3 interventions," said Kern. So, researchers will focus on ways to adapt those Tier 2 interventions to make them more effective and keep students from moving up so quickly to the next tier. Researchers will look at whether an intervention model used successfully in the public health arena can be adapted for school use. Kern believes the model holds a lot of promise in education. ○

A CENTURY OF EDUCATION

The College of Education celebrated a century of education at Lehigh, 50 years as a College and 50 years of the highly regarded Centennial School with the publication of *100 Years of Excellence*.

The 158-page book chronicles the education program's growth from department to school and eventually into one of Lehigh's four colleges. It also tells the story of Centennial School, which serves children with disabilities.

"Our determination to provide leadership in the area of education and human services has never been stronger than it is today. We continue to be at the cutting edge of research in the social sciences."

—Gary Sasso, dean of the College of Education



In 2001, *U.S. News and World Report* named Lehigh to the top 50 graduate colleges of education, and it has been consistently recognized ever since then, according to Professor Emeritus Robert L. Leight, who was instrumental in producing the book.



Research

Shaping Geometric Knowledge

A Lehigh team is finalizing an educational app that allows children to build a virtual structure on a tablet as they might with real blocks.

Can virtual building blocks help young children develop geometric and spatial skills? A Mountaintop team, led by Robin Hojnoski, associate professor of School Psychology, and Michael Spear, assistant professor of Computer Science and Engineering, is experimenting to see if it's possible.

The team spent the summer furthering the development of a block-building tablet application begun in 2015. This year, the team aimed to finalize the educational app it hopes will provide meaningful learning experiences for young children as well as a deeper understanding of child development for researchers.

Tentatively named BuildSpace, the app allows children to build a virtual structure on a tablet as they might with real blocks. Users can choose from a variety of three-dimensional shapes to move, position and stack. Users can also view the shapes from different perspectives, just as

they might move around when building with real blocks.

Team members spanned a variety of disciplines and included Brittany Kuder, doctoral student in School Psychology and Hojnoski's graduate research assistant; Emily Gallagher and Nina Ventresco, both doctoral students in School Psychology; Basilio Garcia '17, a Computer Science and Business major; Lucy Swett '19, a Computer Science major; Melissa Gustafson '19, an English and Psychology major, and Maryam Turkey, a rising senior studying Industrial and Product Design at the Pratt Institute in New York.

Kuder and her teammates visited child care centers and assigned children between the ages of 4 and 7 to do one of two conditions: building with the app or building with real



blocks. Kuder first administered the block design subtest of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) to control for spatial ability. Team members also administered pre- and post-assessments on mental transformation, mental folding and shape identification to compare growth between the two conditions. The team took measurements, such as the amount of time children spent building, whether or not they reset the app or knocked down their blocks, what they built and what they described.

Throughout the summer, the team worked to refine the app and determine how to collect the app's back-end data, which it hopes can provide insight into how children use the app and how that relates to measures of child development and demographic data. The team explored the creation of a guided-building platform as well as a contextualized-building platform that would include building activities within an interactive storybook.

The nature of the Mountaintop program allowed the team to explore possibilities without explicit requirements or fear of failure.

"When we had our first meeting and we knew that there were still some things that are really just hard to do with the app, we kind of said, 'All right, this isn't about an experiment, this is about exploring what we could do and seeing what comes out of it,'" said Hojnoski. "And that is somewhat frightening for people who are used to controlling things, but was also, I think, a little bit freeing." ○

Community Outreach

Promoting School Readiness

A Lehigh pilot project helps parents help their children.

Robert Fulghum penned the best-selling credo "Everything I need to know I learned in kindergarten," but, as the interdisciplinary group of Lehigh faculty that launched the Early Development and Education Initiative know, that's only part of the story.

How well children perform later in school hinges on how well they do early on, even before entering kindergarten, studies show. So, school readiness is important to long-term success.

To support school readiness, Lehigh's early development team joined with the United Way of the Greater Lehigh Valley (Pa.) in summer 2016 to support its KinderCamp, which helps to prepare young children for kindergarten by developing their social-emotional and academic skills in the critical period just prior to school starting.



Lehigh's pilot program added an eight-week parenting component, which was offered to the families of pre-K students enrolled in the camp at Fountain Hill (Pa.) Elementary School. According to the United Way, only 43 percent of students in the 2014-15 school year had been "ready" to enter kindergarten, based on assessments.

The Lehigh program focused on ways to build relationships between parents and their children. It included introductory modules on early literacy and math—two skill areas that are highly predictive of short- and long-term achievement—as well as social/emotional development.

One way parents can promote early learning is through book reading. "If parents are building a stronger relationship with their child, shared book reading is an opportunity to have close interaction and to promote language and literacy," said Robin Hojnoski, associate professor of School Psychology. "And the behavioral component ties into that to show how that interaction promotes social and emotional competence to help the child to have some positive social skills."

A Lehigh faculty research grant allowed Lehigh to make connections with families after KinderCamp ended.

"We were able to say 'school starts next week, are you all set with the bus?'" Hojnoski said. "And, this will continue even into the first month of school. We will be able to ask 'What kinds of problems are you having? ...It is about getting them engaged from the beginning and keeping them engaged.'" ○

Civic Hacking: Creating Change

“Knowledge,” said the Greek philosopher Plato, “is the food of the soul.” Lehigh students who participated in a summer civic engagement project now know first-hand that knowledge can also feed hungry mouths.

Five undergraduates and one graduate student explored the issues of food access and security in the neighborhood around the university as part of Lehigh’s Mountaintop initiative, which allows students to independently

research and data analysis.

Thomas C. Hammond, associate dean of Lehigh’s College of Education, and Sarah Stanlick, director of Lehigh’s Center for Community Engagement and a professor in the Department of

ing about some issues the students may be passionate about. What came to the forefront was food access, food security, education and public health.”

Bill Farina, a doctoral student in the Teaching, Learning and Technology program whose role was to help guide the other students, said the undergraduates became intrigued with how economic and social divides were reflected in the map of Bethlehem.

Lehigh’s home city has as its most distinctive geographic feature the Lehigh River, which separates the North and South sides—the quaint, historic downtown at the site of the original Colonial Era settlement of Moravian missionaries and a weathered home of the Industrial Revolution where Bethlehem Steel forged an empire with poor immigrant laborers who settled nearby. Though the South Side has undergone some revitalization in the past two decades following Bethlehem Steel’s collapse, parts of the neighborhood have remained home to some of the city’s most economically disadvantaged.

The students got to thinking about where people bought their food, what they ate and how where they lived impacted that, Farina said.

Much of South Bethlehem is classified as a “food desert” by the U.S. Department of Agriculture, meaning it lacks places to purchase fresh fruit, vegetables and other healthful foods.

Students mined Census data and other government statistics as well as interviewed local stakeholders, including representatives of St. Luke’s Hospital and local food banks and churches.



explore open-ended questions and try to implement sustainable change.

The students involved in what was ostensibly termed a “civic hacking” project were asked to identify “potential social issues and community needs” using technological tools to perform

Sociology and Anthropology, were mentors.

“For the first two weeks we did a lot around technology tools, what types of things you can use to collect data, what data looks like, what are the ethical issues around data,” Stanlick said. “Then we started to do some brainstorm-

What they found was that despite an apparent need, the number of applicants for benefits through the Supplemental Nutrition Assistance Program or SNAP—formerly known as food stamps—has been in decline. They also found that beneficiaries were not taking advantage of opportunities to buy healthful foods at local farmers markets.

“We started looking at these farmers’ markets and how convenient they could be if people knew they could utilize them,” Farina said. “I think there’s also a bit of a perception that if you’re on a government SNAP program that you can’t go to a farmers market or it’s going to cost too much.”

In fact, students found the opposite is true, thanks in part to the “Double SNAP” program offered by Buy Fresh Buy Local of the Greater Lehigh Valley, which

promotes local, sustainable food sources. Buy Fresh Buy Local will match every dollar up to \$10 per day for SNAP beneficiaries who use their electronic benefits transfer cards at a local farmers market.

After weeks of research, the students—Sophie Bysiewicz ’18, Maddie White ’17, Ellie Hayden ’17, Janelle Jack ’17 and Cassidy Green ’17—concluded that what SNAP and local farmers markets needed was a boost in publicity. They produced a flier touting the Double SNAP benefits and a listing of farmers markets where they can be applied, including one at Farrington Square, on Lehigh’s doorstep. The fliers were distributed to food banks, churches and other community organizations.

Buy Fresh Buy Local has told the group that they are beginning to receive more calls from seniors inquiring about the program. ○

Research

Parents Plus: Language Coach

Brook Sawyer, assistant professor of Teaching, Learning and Technology, received a three-year, \$1.5 million grant from the Institute of Education Sciences to develop and assess the promise of *Parents*



Plus: Language Coach. The online tool, coupled with individual coaching, aims to educate parents of preschool children with language impairments about techniques to promote their children’s language skills.

Sawyer is working with colleagues from Teachers College, Temple University and the Oregon Research Institute to develop the web-based training course.

“It’s imperative that we promote young children’s language skills early so that they can have optimal success in reading and academics as they enter elementary school,” she said. “And right now, parents of preschoolers often don’t have sufficient or convenient enough means to learn evidenced-based language facilitation techniques to help their children.” ○



SHAPIRO HONORED

The late Edward S. Shapiro, who was professor of School Psychology and director of the Center for Promoting Research to Practice at Lehigh, won a prestigious national award in February 2016 for his lifelong contributions to the training of school psychologists. He died one month later.

Shapiro had accepted the Outstanding Contributions to Training Award from the Trainers of School Psychologists at its annual conference in New Orleans.

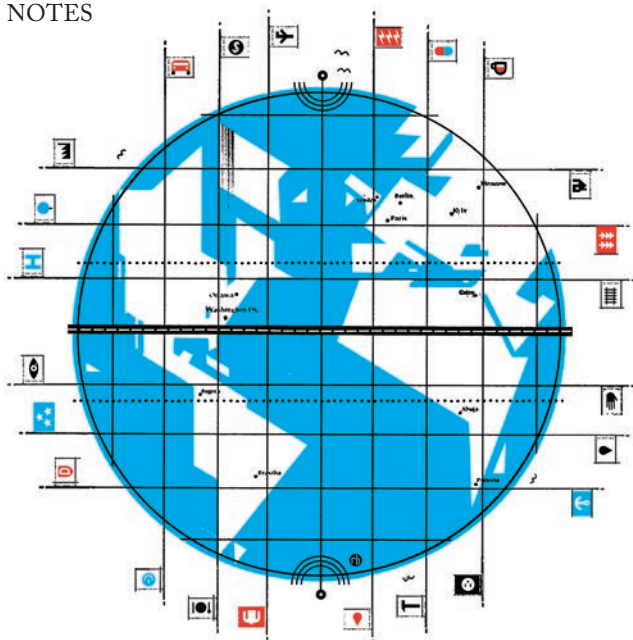
Though he had previously received recognition for his scholarly work, the award recognized Shapiro’s contributions in an area he had long been passionate about—effective training.

“There are few individuals in the field of school psychology who have had the positive impact on training that Ed Shapiro has.”

—Nathan Clemens, assistant professor of Educational Psychology at Texas A&M University.

Gary Sasso, dean of Lehigh’s College of Education, has described Shapiro as “a giant in the field of school psychology and special education” who has “consistently ranked as the most influential professional in the field.”

Sasso said Shapiro was personally responsible for training scores of students who cite him as the most influential person in their professional lives.



The Reach of Research

In a world that has become more connected, Lehigh faculty have become an integral part of the international dialogue surrounding education—particularly in regions where educational reform is undergoing intense scrutiny.

Czech Republic & Bethlehem, Pa.

Sometimes it takes a village, and sometimes it takes a tsunami. That's the assessment of Lehigh student Prarthna Johri '18, who joined a team of students in researching ways to advance equity in education, both in the United States and the Czech Republic.

The initiative, known as CADRE3—Calculated Actions to Deliver Racial and Ethnic Equity in Education—was among Lehigh's 2016 Mountaintop initiatives. Christine Novak, professor of practice in School Psychology, mentored the team, which was particularly interested in advancing equitable educational outcomes for those who are socially excluded from a majority culture because of poverty

or other birth circumstances. As such, the centerpiece of the 10-week summer initiative was school desegregation.

In the Czech Republic, the focus was on the Romani people who typically live in isolated communities on the outskirts of towns and face an educational system that disproportionately places Romani children in "practical schools" for children with "mild mental handicaps."

In Bethlehem, Pa., part of

the team worked with the equity director for the Bethlehem Area School District and focused its energies toward modifying a diversity training for teachers that Floyd Beachum, program director of Educational Leadership, and Chris Liang, associate professor of Counseling Psychology, have conducted for the district's administrators.

The students began their work by examining U.S. schools that had been successful in desegregating their student populations. They provided their analyses to one of Novak's colleagues, an inclusion expert in the Czech government, and used their analyses to guide the rest of their project activities.

Johri was among those who traveled to Prague, where she interned at the NGO news organization ROMEA. In a blog post, she shared insights she gained from a colleague there.

"Yveta mentioned that the problem was no longer the shuttling of students to special schools," which were to be abolished in September. "As much as I thought that was good news, she brought up the point that though the schools will no longer be called that, the student population wouldn't be distributed. So even though the schools would be reformed, the populations would remain in their current segregated states."

Johri concluded: "It is becoming increasingly apparent that we're trying to fight an issue that can only be resolved by completely dismantling the system and rebuilding it, while fighting the attitude barrier." She retained hope that the team's efforts could have an effect. "We can help a few



people, help a couple parents or a couple students. And maybe those students motivate a couple of their friends or their children later. Maybe our drop of water contributes to the tsunami.” ○

Shanghai

With the emergence of counseling psychology as a profession in China, Lehigh’s Office of Global Online Graduate Degrees has partnered with Nanjia (Shanghai) Culture Communication Ltd. to provide workshops in Shanghai for practicing professionals.

For the second consecutive year, Arnold Spokane, professor of Counseling Psychology at Lehigh, and doctoral student Ge Song ’13G teamed up to conduct the workshops, which focus on developing counselors’ therapeutic skills in helping people cope with mental health issues.

Three-day workshops held in 2015 focused on basic clinical and therapeutic skills. Workshops in 2016 focused on the treatment of depression/anxiety and trauma. Another program scheduled for January 2017 will focus on the treatment of personality disorders.

In the past decade or so, China has been moving toward certifying professional counselors, Spokane said. Prior to that, mental illness had historically been viewed as “improper thinking.” And so, he said, as long as people were “thinking properly,” the belief was that they’d be fine.

“That’s changed now,” he said. “China is coming into the modern economy and culture, and it is much more open to Western approaches, with modification and consideration of Chinese culture. There’s been heavy emphasis

there now on emotionally focused approaches and cognitive behavioral approaches to therapeutic interaction.”

In May and July, 38 practicing counselors participated in the workshops, which are taught in English and Mandarin. Participants were from urban and rural areas of Eastern China, and they included professionals who are working as counselors in community agencies, universities, the military and private practice.

The workshops aim to provide participants with new perspectives on how to be most effective in mental health intervention, Spokane said. Skills of exploration and action come from a model developed by Clara



Hill, professor of Psychology at the University of Maryland. The material has been translated into Mandarin.

Participants are responsible for pre-course readings, and they have to construct case examples that are appropriate to their practices. Spokane and Song work together on the assignments, exercises and case reviews. Role playing is part of the instruction.

“It’s important to the social sciences to reconsider theory, research and practice outside of strictly Western ideas and theories,” said Spokane, addressing the significance of the program. ○

AROUND THE WORLD

In a world that has become more connected, Lehigh faculty have become an integral part of the international dialogue.

HAITI

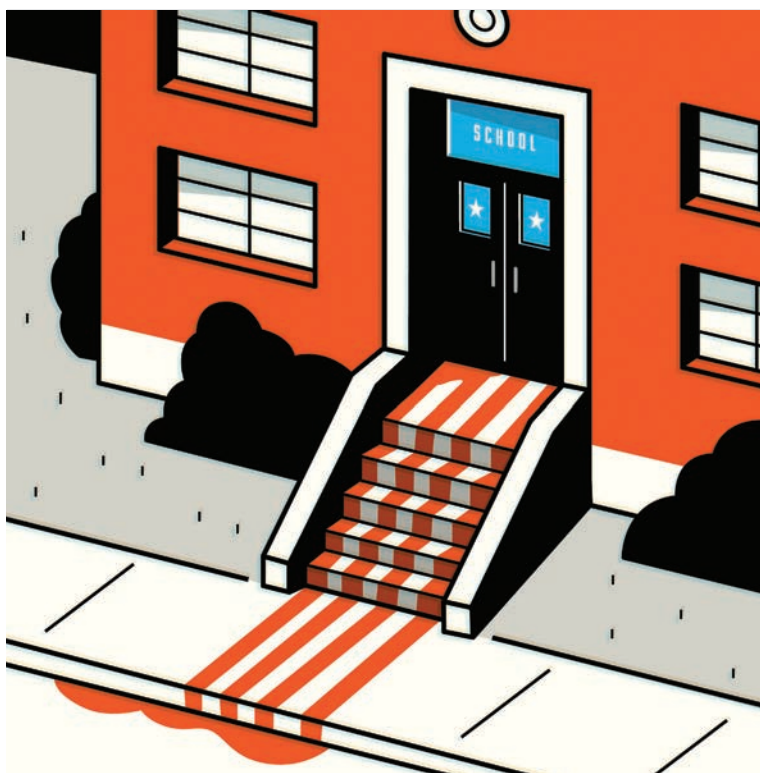
Doctoral candidates Asmita Pendse and Xiaoran Yu traveled to rural Haiti to evaluate a training program for health-care workers that is run by Heart to Heart International, in partnership with Becton, Dickinson and Company. They used focus groups, surveys and field observations to help strengthen efforts to improve water, sanitation and hygiene.

PERU

Graduate students Christine Gravelle and Netta Admoni will travel to Peru in late fall 2016 to work with two NGOs and the BD company to create sustainable monitoring and evaluation plans. As part of the project, they will create metrics in the areas of information technology, business development and administration, marketing and lab services.

INDONESIA

Jill Sperandio, associate professor of Educational Leadership, completed fieldwork in Indonesia for a study, funded by Australian Aid to Indonesia, titled *Female Education Personnel: A Study of Career Progression*. Sperandio is examining the experiences of women aspiring to be principals and those currently serving as principals in both the public school system and the Islamic madrassah.



Can We Curb School Violence?

Each day we hear disturbing news reports of violence in our nation's schools. The regularity of these stories leads us to believe that schools are no longer safe places for our children. And, students are not the only victims of school violence. Teachers are regularly assaulted at school as well. So, can we curb school violence? The answer is yes...but it takes some work.

How do we create safe and supportive school environments and reach struggling children and adolescents? First, we need to understand the nature of student

behavior in schools. A depiction of problem behavior among a school's student body has emerged from several decades of research. In almost every school studied, the majority of students (approximately 80 percent) rarely, if ever, exhibit behavior problems at school (i.e., violations of the code of conduct such that the student receives some type of disciplinary referral). So, the majority of students receive no, or just one, disciplinary referral during a school year. Approximately 15 percent of students

can be classified as "at risk" engaging in periodic behavior problems (i.e., they receive two to five disciplinary referrals per year). The remaining roughly 5 percent have chronic and serious emotional and behavioral problems and engage in ongoing behavior problems.

In addition to a portrayal of student behavior, we also must understand the manner in which schools address student problems when they arise. That is, we need to know what works and does not work from a historical perspective. In response to behavioral infractions, schools have traditionally applied punitive procedures, such as detention, suspension or expulsion, in the hopes that these aversive responses would deter students from engaging in future problem behaviors. Numerous large-scale and well-conducted research studies, however, reveal just the opposite outcome. That is, when schools apply highly punitive and restrictive procedures, there is actually an increase in problem behaviors, such as rebellion toward teachers, vandalism against school property and absenteeism and truancy.

If punishment is not effective, then how do we address behavior problems? The solution is to develop a positive approach that prevents problems from emerging

and also provides supports for students with more serious mental health and behavioral problems. Such an approach involves leveled or tiered support in

which all students receive some form of universal prevention, while at-risk students and those with severe emotional and behav-



ioral problems are provided in increasingly intensive interventions and supports as needed, depending on their responsiveness. This approach creates a school culture where students feel welcomed and supported and teachers have a consistent and effective way to interact with students and address problems. Its effectiveness has been demonstrated in schools throughout the United States and abroad, including those in high-risk neighborhoods. Furthermore, because the approach is preventive and intensive support is reserved only for those most in need, it is also efficient in terms of time and resources.

To illustrate, schools establish, define and teach expectations to the entire student body (termed Tier 1 intervention). Unlike many codes of conduct that emphasize infractions (e.g., No tardies, No cursing), expectations are stated positively and intended to teach students what they should do when they are at school (e.g., Arrive at class before the bell rings, Use polite words). By teaching expectations to all students, problem behaviors among those who may have had little experience with structured or social environments can be avoided. Further, teachers and school staff are also taught procedures to acknowledge and reward students who are adhering to expectations (making the system overwhelmingly focused on students who behave appropriately) and how to consistently respond to infractions with efforts to re-teach desirable behavior. Data are collected to identify students who continue to receive disciplinary referrals and need additional support (Tier 2 intervention). In addition,

schoolwide screening for mental health problems is conducted to identify students with problems that would not otherwise be noticed, such as depression or anxiety, and appropriate intervention is provided.

Students needing Tier 2 intervention typically receive support in small groups. The assumption is that these students need additional skills (e.g., social), monitoring or mentoring to learn how to interact or self-regulate their behavior. For instance, the most commonly used Tier 2 intervention is the implementation of a student behavior monitoring system whereby a student “checks in” with a designated school staffer

depression and anxiety.

For the 5 percent of students with more serious and intransigent problems, intervention is individualized and multicomponent, and derived through a comprehensive assessment process. The assessment process identifies environmental variables that may be modified to help support the student (e.g., abbreviated testing situations), skill deficits that need to be remediated (e.g., intensive reading instruction, anger control), and structured school and community supports for mental health concerns.

Is it easy to turn around a failing school? The answer is no, especially when school staff are



each morning to discuss daily expectations, receives a behavior rating from her teacher at the end of each class period, “checks out” with the staff member at the end of each day to discuss her accomplishments and goals, brings the behavior ratings home for parent signature, then returns the rating sheet the following morning.

Likewise, small-group cognitive behavioral interventions are highly effective at reducing symptoms of

frustrated and burned out. It calls for effective school leadership, a collective commitment to make improvements and systems to sustain change efforts over time. But in the long run, it is well worth the effort for students, their families, school personnel and society in general. ○

—By Lee Kern, director of the Center for Promoting Research to Practice and professor of Special Education

THE REFUGEE CRISIS

**HOW CAN EDUCATIONAL SYSTEMS
HELP THOSE STRUGGLING TO
START LIFE ANEW?**

Written by
Kelly Hochbein

Illustrations by
Tatsuro Kiuchi

Beaten nearly to death by militia in his home city of Baghdad, Abbas Khalaf left Iraq and traveled to Egypt on a tourist visa in September 2006. On his mission to find and prepare a safe place for his family, Khalaf left behind his wife and three young children and began an odyssey rife with risk and uncertainty.

During his long and complicated journey from Egypt to Israel and finally to the United States, Khalaf was robbed and shot at. He ran, terrified, through a hole in a border fence and into the night, a Muslim man in the dark Israeli desert. He feared for his family's safety. He moved from place to place, living among strangers and dependent upon the decisions of people he'd never met. He learned not one, but two new languages. He waited.

Patience was Khalaf's most important resource. It took years for the United Nations to recognize him as a refugee, and when he finally saw his wife and children again, it was 2012. They joined him in Pennsylvania's Lehigh Valley with a new language to learn and a new culture to understand.

Khalaf's harrowing tale is one of countless

stories of refugees who fled violence and conflict and made their way to host countries now struggling with the influx of people to their borders. As tens of millions of displaced men, women and children struggle to start life anew in countries feeling the strain, it seems there are more questions than answers. Among them: How can educational systems help?

Lehigh researchers and students hope to find out. In June and July 2016, Alexander Wiseman, associate professor of Comparative and International Education, and Lisa Damaschke-Deitrick, professor of practice in Comparative and International Education, accompanied Lehigh students—including a Mountaintop team and Iacocca interns—to the University of Tübingen in southwest

Germany to assist with teacher training, course development and efforts to support refugees. Lehigh's partnership with the university also allowed the team to study educational approaches that could be implemented in the United States, including a multilingual, web-based guidebook for new arrivals.

"One of the things we're really interested in is how the existing institutions of education and government facilitate the transition [of refugee] youth and families," says Wiseman.

When refugee youth flee to countries such as the United States and Germany, where schools

65.3

**MILLION PEOPLE
WORLDWIDE
HAVE BEEN FORCIBLY
DISPLACED FROM
THEIR HOMES***



focus on education- and work-related skills, they often still need the basic humanitarian services provided by UNICEF or other organizations in refugee camps. But the school systems they enter assume that their basic needs have been met and that they're stable enough to focus on schooling or transitioning from school to work.

"This is where much of the work of refugee youth and family transition through empowerment and education can and should be focused," says Wiseman.

Germany, which lies at the heart of the European refugee crisis, is an effective place to start. According to the United Nations High Commissioner for Refugees, Germany had hosted 316,115 refugees by the end of 2015 and received 441,900 asylum claims.

"When the refugee crisis really started in earnest, with Syrians and others from that region going into Europe, that was very interesting to me because we'd done some work with Ger-

many," says Wiseman, whose past research has included teacher licensing and national educational evaluation systems with national agencies in Saudi Arabia. "I've been working with groups that look like the refugees when they were not refugees, and so thinking about how that group displaced into a Western developed system became very interesting."

At Tübingen, Wiseman, Damaschke-Deitrick and the students focused on how to best facilitate the transition of refugee youth into schools and into communities through schools at all levels, including higher education.

"Our work in Germany can potentially influence what we do here at Lehigh to support refugees," says Wiseman.

EQUIPPING TEACHERS

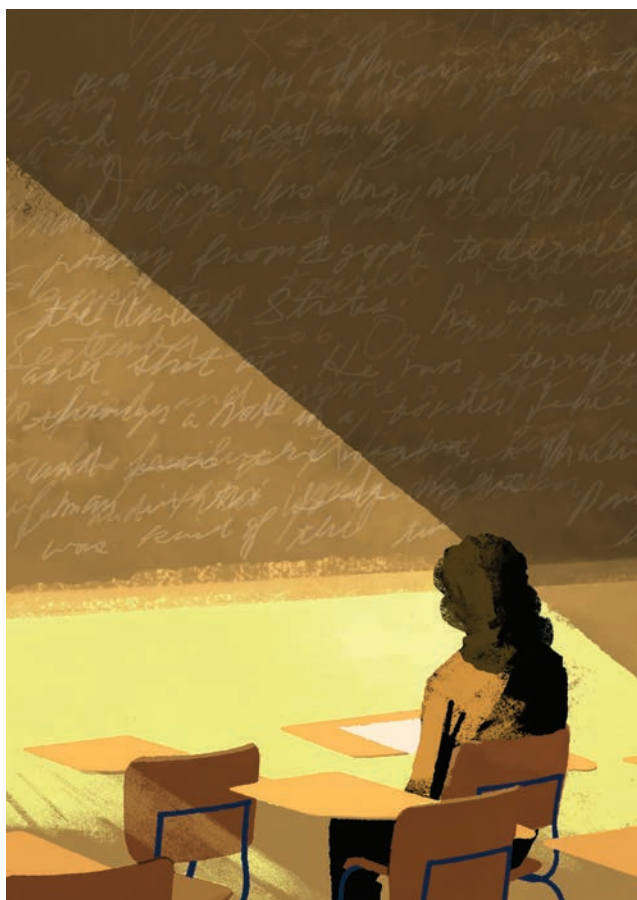
By German law, all children must enroll in school within six months of arrival in Germany. The educational systems of many host countries place

refugees and immigrants in classrooms where acquisition of the host country's official language is the primary goal before students are integrated into regular classrooms. In Germany, this kind of class is called *Willkommensklasse*, or "welcome class."

"Some of [the refugee students] come from well-educated families, some come from families where education plays no role," says Damaschke-Deitrick. "So this is a challenge for both sides, of course. They're all in one class."

The influx of refugee students in Germany has led to a desperate need for teachers. Retired teachers have returned to the classroom, and a young, new crop of teachers has stepped up. All require training in how to work with refugee children, who face challenges related to language, culture, discrimination and the trauma they may have experienced prior to and during their journey.

Similar to Teach for America in the United States, Teach First



Deutschland is a German non-profit organization that recruits college graduates to teach for two years in challenging German schools. Teach First Deutschland's "fellows" receive three months of training prior to entering their classrooms. While at the University of Tübingen, the Lehigh team extended Teach First Deutschland's existing training by providing the fellows' trainers with a three-session workshop on cultural awareness, intercultural communication and how to recognize and deal with trauma and conflict. The trainers learned to instruct teachers in how to be aware of their own identities and identify prejudices and stereotypes. Among several activities, they discussed how personal identity might change based on context, developed a list of potential situations in which students might feel alienated and considered how teachers might be more thoughtful and proactive at preventing marginalization in their classrooms.

"One of the struggles that the Teach First Deutschland folks will be facing is they don't know how to teach German as a second language, they don't know how to work with the range of backgrounds [of their students]," says Wiseman. "So some kids will be coming from other developed countries in Europe and just don't speak German. Some kids are orphans from a war-torn region. And they're all in one class, so how do teachers manage that within the class? How do they provide the basic needs that the truly refugee kids need in the class—social, emotional, medical, all those other kinds of support? We were trying to help with that."

Damaschke-Deitrick says many teachers she met in Germany expressed a desire for such training.

"When I talked to the teachers, there was this big gap between what they expected to do—teach those kids, help them learn German, integrate into German society and learn German culture, all of that—and then the reality" that they can't do all those things, she explains.

With some adjustments, Wiseman says, the training could be replicated for teachers working with refugee students in the United States.

"[In Germany], a lot of it had to do with how you as a teacher might deal with any kind of refugee that comes to you," Wiseman says. "The

markers for what they need to be dealing with were primarily issues of identity [and] trauma, so how do you adjust what you're doing in the classroom to match the needs of those kinds of students in particular?"

THE 'REFUGEE COURSE'

Refugees arriving in a new country must learn about their new home and figure out how to fit in, and language and culture present significant and sometimes seemingly daunting challenges to these tasks. The University of Tübingen is working to support refugees from a higher education perspective, and Lehigh students provided assistance throughout the summer.

Because enrolling in college puts at risk the financial support refugees receive from the German

government, the University of Tübingen has re-designated some courses to make them accessible to refugees, who can enroll as guest students. Among these courses are German-language and English-language courses and a "refugee course" aimed at preparing

refugees for regular university study in Germany. Enrollment allows refugees to take higher-level language classes and learn about German history, politics, society and cultural values. Refugee students receive intercultural training and an introduction to the various academic fields they might eventually pursue.

Entry to the refugee course has become highly competitive. Advertising on Facebook alone, the university received more than 100 applications over summer for the approximately 20 available spaces in the course. The Iacocca interns spent the summer working in the office of Christine Rubas, the University of Tübingen faculty member who coordinates the course. They established social media for the course, reviewed applications, scheduled and observed interviews and met with applicants.

"Their willingness to study despite their diaspora absolutely shocked me, and truly inspired us," says Iacocca intern Katie Barr '18.

The Iacocca interns worked with Rubas to generate ideas about how to advise refugees on how to navigate the university. They helped establish a buddy program to match German student mentors with refugees and created Facebook

21.3

**MILLION PEOPLE
HAVE BEEN
DESIGNATED
AS REFUGEES***

groups and a page that will allow refugee participants to communicate with each other and with German students.

“Inundated with the German language, many refugees who learned English in their home country have forgotten much of it and focused their attention on the German language,” says Barr. “To combat this loss, I personally met up with refugees in my spare time to practice English with them.”

To further assist with English-language learning, Iacocca interns also hoped to establish a pen-pal program between refugees at Tübingen and Lehigh students.

“So far we have received much enthusiasm from both refugees and Lehigh students about the project and hope that it can launch this fall and remain a part of the University of Tübingen’s refugee course in years to come,” says Barr.

A NEWCOMER’S GUIDE

The Mountaintop team’s TREE (Transitions for Refugees through Empowerment and Education) Project sought to provide similar transition support to refugees and other newcomers in the United States, and specifically those in the Lehigh Valley.

When refugees are resettled locally after a thorough vetting process that takes at least 18 months and includes security and health screenings, an agency such as Bethany Christian Services in Allentown, Pa., helps new arrivals find apartments and jobs and gets them enrolled in English-language classes. Children are immediately enrolled in schools. Some, like Abbas Khalaf’s children, are integrated into regular classrooms and receive English-language instruction after school. Others are placed in classrooms similar to Germany’s *Willkommen-skasse*. Allentown’s Newcomer Academy, for example, enrolls non-English-speaking high school students for their first year in the United States. At Newcomer, students study English, mathematics, science and U.S. history. Some, but not all, of the school’s students are refugees.

Using the information they gathered in Germany and through their conversations with teachers and staff at Newcomer Academy, the TREE Project team—Katie Morris ’18, Rebecca Ely ’17 and

Aman Kakani ’18—created an online guidebook for immigrant and refugee families transitioning to life in Allentown.

The “Newcomers Guide to Allentown” includes videos with subtitles in Arabic and Spanish, as well as contact information and links to websites with key resources. Sections of the book, which can also be downloaded as a PDF, explain how to access adult education, enroll a child in school, use public transportation, and visit area parks, restaurants, libraries, medical centers, pharmacies, dental clinics and banks. The book also includes information on topics including pathways to citizenship, legal aid and religious organizations, as well as cultural guidelines, such as how to be an American student and what happens at a birthday party or at other celebrations.

The team wrote a blog, “Redefining Refugees,” in an effort to educate the public about refugees and the issues they face locally and in Germany. They’ve invited local refugees to submit their own stories as a means of dispelling public misconceptions about the refugee population.

“We need to hear the story of the man I met

who traveled through so many countries on his way to Germany that he couldn’t even name them all. The man who said that he got in a taxi in Serbia and feared that he would be killed. The man who slept in the streets of Croatia on his way here,” Morris writes on the blog. “These

are the stories that matter.”

The Mountaintop team also hosted an event in late July that brought together teachers, refugees and other members of the local community to share their finished product. Morris and Ely plan to continue their work through the Lehigh chapter of a national, refugee-focused club called No Lost Generation, which is recognized by the U.S. Department of State.

NEXT STEPS

Wiseman and Damaschke-Deitrick are planning a comparison study of how Germany and the United States use education as a means of communicating socio-cultural norms to refugee youth. They seek to identify how policies are implemented within classrooms in order to highlight gaps between theory and practice. Having accepted a

51%
OF THE REFUGEE
POPULATION IS
UNDER THE AGE
OF 18*

large number of refugees, Germany provides a context that might inform the approaches of other developed nations.

Groups like UNICEF and UNESCO have traditionally used schools as a stabilizing factor in conflict situations, says Wiseman. Schools provide routine as well as a means to provide support services to children and their families. In a refugee camp or staging area, the goals are similar—schooling for humanitarian purposes. But in many countries, such as Germany and the United States, Wiseman says, “the purpose of schooling is usually human development in terms of skills and knowledge, which is a very different approach.

“We’re interested in looking at how there’s a shift in the way that school is used when it’s in a conflict zone versus when it’s in a developed country and the way that refugees’ needs don’t really shift along the same lines as what the school has to offer,” says Wiseman. “... [We want to] look at the different ways that schooling operates in post-conflict context versus developed-country context for the same populations... How that impacts how refugees basically assimilate or transition to their new community.”

Damaschke-Deitrick, a native of Germany who received her doctorate from University of Tübingen, is planning a course on the refugee influx in education for fall 2016 at Lehigh. Students in the course will explore theories concerning migration, resettlement and integration; country and school policies and practices concerning immigration, and questions of citizenship and civic education.

FINDING HOME

When he first arrived in Pennsylvania, Abbas Khalaf worked nights at a local hospital so he could study English all day. As his English improved, he interviewed for higher-paying positions and was eventually able to purchase a home prior to his family’s arrival in 2012. His children have adjusted well and are learning English and thriving in area schools.



ing in area schools.

In June 2015, Khalaf became a U.S. citizen. Today, he works as a case manager for refugee resettlement with Bethany Christian Services, helping people through what he experienced himself upon his arrival in the United States. He welcomes at the airport refugees from countries such as Iraq, Syria, Sudan, Congo and Myanmar, brings them to their new apartments and answers any questions they might have.

“I tell them that I was a refugee, I came the same way you came,” Khalaf explains. “I’ve been here five years, I bought a house, I have a good job, I learned English. So you have to do all of the steps. That gives them hope when they find somebody successful in front of them.”

By training educators and providing social and cultural support, Wiseman, his colleagues and participating students hope to ease the transition and empower others to find the success Khalaf has found in his new home. ○

*SOURCE: UNHCR GLOBAL TRENDS: FORCED DISPLACEMENT IN 2015





WRITTEN BY MARY ELLEN ALU
PHOTOGRAPHY BY CHRISTA NEU

SPEAKING MY LANGUAGE

IN AN INCREASINGLY DIVERSE SOCIETY, SCHOOLS FACE THE CHALLENGE OF PROVIDING AN EFFECTIVE EDUCATION TO ALL. HERE'S WHAT THEY CAN DO.

As she conducted classroom observations on preschool language and literacy instruction, Brook Sawyer often noticed that the students who did not speak English proficiently would sit alone, uninvolved and often ignored. Their monolingual English-speaking teachers didn't know how to engage them in learning, she says, and the young students themselves didn't know what they were supposed to do.

Sometimes, the students would get into trouble for not following directives, even though they had apparently misunderstood what the teacher was saying.

"This is so hard for kids," says Sawyer, assistant professor of Teaching, Learning and Technology at Lehigh.

But Sawyer doesn't fault teachers. Most have not been trained well in reaching students who are culturally and linguistically diverse. "It's very challenging for teachers. They're in classrooms of 25, 30 kids," she says, and how do they provide individualized instruction for all of these children?

As the number of dual language learners—those learning two languages at the same time—and English language learners (also known as English learners) grows, teachers and schools are increasingly faced with the challenge of providing them with an effective education. Though they have the potential to excel in a diverse society, these learners often lag behind in academic achievement compared with students whose only home language is English, according to the non-profit research group Child Trends.

Along with Tom Hammond, associate dean of the College of Education at Lehigh, and colleagues from Cedar Crest College, DeSales University, Muhlenberg College and the Hispanic Center of the Lehigh Valley, Sawyer sought to promote awareness of the issue and better equip teachers by organizing a “Speaking My Language” seminar at Lehigh earlier this year. “I wanted teachers to know how hard it is for children to learn English. There is a myth that children learn so much more easily than adults, but this is often not true. It is also important for teachers to learn about the strengths of families as well as the challenges that parents face,” she states.

Sawyer also wanted to give teachers more tools and strategies that can be implemented in their classrooms.

As part of their research into teachers’ multicultural educational practices, Sawyer and Lehigh doctoral student Emily Aragona-Young surveyed dozens of teachers at elementary schools in the Lehigh Valley, Pennsylvania, area to assess how they define culture, what cultural factors they consider when planning instruction and the range of multicultural practices they endorse.

In evaluating the survey results, Sawyer noted that “teachers do a really great job of developing com-



“I WANTED TEACHERS TO KNOW HOW HARD IT IS FOR CHILDREN TO LEARN ENGLISH.”—BROOK SAWYER

munity in their classrooms.” She further noted, “They want all of their students to get along. They want everybody to respect each other. And sometimes they feel, at least as it was reported in this survey, and I’ve seen it many times, that talking about how someone is different might make the student feel singled out or embarrassed.

“They think they’re doing a good thing, but they’re really not allowing the students to develop their own identity,” she says. “So I think, as teachers, it’s a hard balance to strike. You want students to feel comfortable and safe and part of a community, but you also want to honor their culture and their language and make them feel good about that.”

That’s part of the reason Sawyer refers to the students who are learning English as dual-language learners: to show an appreciation for the students’ home language, to put equal emphasis on both their home language and English.

At Lehigh's "Speaking My Language" seminar, Annette Zito, an ESOL (English for Speakers of Other Languages) teacher in the Bethlehem Area School District (BASD), shared strategies for helping the learners adjust to their new surroundings, whether they are relocating from Puerto Rico and speak only Spanish or are fleeing Iraq and speak only Arabic. Ideas ranged from assigning classroom buddies to making a "survival" ring for students to communicate basic needs.

"You have to understand the child and their culture," says Zito, who works with kindergartners to fifth graders at BASD's Farmersville Elementary School. "No matter who the student is, they have something to contribute to your classroom. It's important for the teacher to get other students to understand that."

Zito recalled an instance when some students had been reluctant to have a young child from Croatia join their group, until she pointed out that he knew the material but was still learning English. In another instance, a teacher had been

surprised that a fifth-grader, a Liberian refugee, did not know his birth date. Zito expressed the likelihood he hadn't marked the occasion with a cake while in a refugee camp.

In school year 2013-14, 9.3 percent of public school students in the United States, or an estimated 4.5 million students, were English language learners, according to the National Center for Education Statistics. The states with the highest percentages were in the western part of the country.

But schools on the East Coast feel the pressures, too. The Bethlehem Area School District, for example, identified 1,103 students, or 7 percent of its student population, as English language learners in the beginning of the 2015-16 school year, states Doris Correll, the district's supervisor of ESOL. The students spoke 43 different languages, with the overwhelming majority speaking Spanish as their first, or home, language. Other top languages were Chinese, Punjabi, Portuguese, Arabic and Gujarati.

Correll tries to empower the district's specialists to lead discussions and convey to classroom teachers that just because ESOL students cannot produce English language yet "does not mean that they cannot think at a higher level, that they cannot perform at a higher level." They can process pictures, bars and charts, she says, for example. "They can do a lot, especially with the technology we have now."

English language learners can't just be the responsibility of specialists, says Sara Kangas, assistant professor of Teaching, Learning and Technology at Lehigh. In most of the models used in Pennsylvania, she says, they spend much of their time with classroom teachers learning science, math and other content. They





*“THE HARDEST PART IS DIFFERENTIATING
THE INSTRUCTION.”—LUKE KUKUVKA*

receive support from ESOL teachers in the classroom, or they receive one to two hours of support in a separate location with other English language learners.

She recognizes the challenges that presents. “General education teachers already have so much on their plate and then they need to also be thinking about how their instruction can meet the needs of these kids.” Are the teachers modeling different tasks for the students? Are they using visuals? Does their instruction have any cultural bias? “They need to tend to all those things.”

When school models incorporate students’ first languages, Kangas says, those students have better

academic outcomes. Also influencing learners, she says, are teachers’ perceptions of family members and their understanding of different cultural

values. Teachers might perceive parents as being apathetic when in fact those parents may have a different understanding of their role in their child’s education.

Among the 19 students in fourth-grade teacher Luke Kukulka’s class at BASD’s Marvine Elementary School in the 2015-16 academic year were five English language learners, including a girl born in the Dominican Republic and a boy from Puerto Rico who spoke virtually no English.

“The hardest part is differentiating the instruction,” says Mr. K, as he’s known to students. He works closely with ESOL teacher Anastasia Wrobel, who offers strategies he can use in his classroom and provides direct instruction to the English language learners in a separate location throughout the school day.

“We work together,” he says. “It’s a collaboration.”

Mr. K assigned a “classroom buddy” to help translate for the young boy from Puerto Rico. He asked his students to teach him words in Spanish, which he used in class. He tried to boost their cultural and linguistic pride, particu-

larly that of a girl who shied away from speaking Spanish in front of him.

"I make an effort to make the kids feel comfortable," he says. "They feel being Hispanic is a negative thing. 'No,' I say. 'It's awesome you can speak two languages.'"

Wrobel, who is fluent in Spanish, also communicates with parents who can't speak English about their children's progress. She is mindful that some parents might be intimidated to come to the school because of the language barriers. When a mother lamented she could not read to her child because she didn't know English, Wrobel encouraged her to read to her child in Spanish.

One way to support the development of dual-language learners is to cultivate parent-teacher collaborations. Sawyer and Patricia Manz, associate professor and program director of School Psychology at Lehigh, created Project TAPP (Teachers and Parents as Partners), which was the subject of one of the "Speaking My Language" sessions. The project aimed to bring together the cultural and linguistic expertise of Spanish-speaking parents and the pedagogical experience of monolingual English teachers to provide culturally and linguistically responsive instruction for dual language learners. Another goal was to cultivate strong and trusting relationships between parents and teachers and to break down stereotypes that might exist between teachers who speak only English and parents who are Spanish-speaking and whose children are learning both languages.

Sawyer and Manz, along with graduate student Kristin Martin, brought parents and teachers together so that they could learn from each other how to better educate the children. The project had immediate impact: Parents felt more comfortable talking with teachers about their children's education, teachers recognized and valued parents' knowledge and that, in turn, changed teachers' assumptions about the families. Several teachers commented that participating in TAPP helped them.

Sawyer says she tries to impart the importance of respecting families when advising her own graduate students who are training to be teachers. "Honor these families," she says, "and like their kids." ○



Luke Kukuwka in his fourth grade class at Marvino Elementary School.

STRATEGIES FOR THE CLASSROOM

How can teachers ease the transition for English language learners?

- Assign a "classroom buddy."
- Find books on the students' countries and display their flags.
- Look for ways the students can share their culture/language (such as bilingual books and music).
- Provide books in their language, interpreters, bilingual dictionaries and access to electronic translators.
- Make "communication" cards and put them on a ring so that students can convey their basic needs, such as if they feel sick or need help.

Source: Compiled by Annette Zito, ESOL teacher, Bethlehem Area School District



In Retrospect: Geoffrey Canada

“This is not about whether charter schools are the answer. There are charters that are great. There are charters that are lousy. This is about, as educators, are we prepared to experiment, figure out what works, then scale it? That’s what this is. And charters should be the perfect vehicle to do that.”

Educator Geoffrey Canada, who rose to national prominence as the head of the Harlem Children’s Zone, speaks on the “Promise of Charter Schools” as part of the College of Education’s 2015 Distinguished Lecture Series. The cover story in the 2015 issue was on “The Charter Challenge.”



PHOTO BY CHRISTA NEU

WRITTEN BY MANASEE WAGH
ILLUSTRATION BY JORDON CHEUNG

CAN WEARABLE TECHNOLOGY HELP TO EVALUATE HOW PRINCIPALS USE THEIR TIME?



A SMARTER WAY TO WORK

Inside the cool, cavernous interior of Bay 2 on Lehigh's Mountaintop Campus, six students studied flowcharts and scrawled notes on whiteboards. Outside their roomy, makeshift cubicle, a fluorescent sign proclaiming their mission—Smart Schools—stood like a sentry amidst a sea of similar cubicles and similar markers.

The students set out to determine if wearable technology could help in evaluating how school principals, teachers and others spend their time and how they interact with their school environ-

ments. Their work in summer 2016 was part of Lehigh's Mountaintop program, which gives teams of undergraduate and graduate students from a variety of disciplines the freedom to pursue answers to open-ended questions.

"I was really impressed with how this group grew," said Abby Mahone, a graduate student in Educational Leadership who worked with the team. "The students had to teach themselves new skills to accomplish tasks they had never done before."

The team was adapting existing smart-wearable technology and creating mobile and desktop apps that could potentially be used to study school administrators' daily activities and behaviors. Each student brought different talents to the table—coding, cognitive science, design, business skills.

Mahone and her adviser, Craig Hochbein, assistant professor of Educational Leadership in the College of Education, mentored the students and allowed them to formulate their own ideas.

The project extended Hochbein's earlier work in tracking how principals use their time—and how that might correlate with student behavior/emotional risk. The students saw the recent explosion of biometric data-gathering devices as a golden opportunity to learn how the devices can improve the study and management of time use.

"After reviewing over 100 years of principals' time use research, we

discovered that the daily activities of principals have been studied in only four ways—one-time surveys, observations, daily logs or event-sampling methodology,” Mahone said. “We saw a huge opportunity to use data-collection technologies to improve the study of principals and created the team to explore it as a possibility. The hope is to

“WE STARTED WITH A REALLY OPEN-ENDED PREMISE,” MAHONE SAYS. “THE STUDENTS WERE ABLE TO TAKE THE PROJECT INTO THE DIRECTION THEY WERE INTERESTED IN. THEY HELD EACH OTHER ACCOUNTABLE FOR ACCOMPLISHING TASKS.”

have created a kit that principals or teachers can wear all year.”

The team hoped the project would provide new insights into the challenges of administrators’ jobs.

“We know very little about how they react to their environment right now,” said Hochbein. “For example, which classrooms and spaces are principals visiting, and how are they reacting to those settings? Is the behavior of the principal influencing the school setting? Context matters, but it’s very difficult to quantify how much it matters.”

The students took advantage of available smart-wearable technology that already accesses daily activities, to be able to examine heart rate and steps and floors climbed, and they conceived and built an app to track locations. The students wanted to outfit administrators with devices that would provide biometric data, including time spent walking, standing and sitting. The challenge was to be able to integrate data from multiple sources to paint a detailed, objective picture of how individuals respond physically and mentally, minute by minute, to their surroundings.

The students also developed the mobile and desktop applications that would allow principals to be contacted at random intervals with set questions to determine what they were doing and at “critical points,” such as when the technology indicated heart rates were up. More research is needed to determine “critical points,” Mahone said.

To find a technology that would yield data without being obtrusive to users, the students tried out a variety of wearable devices on themselves, other Mountaintop students and faculty. They narrowed their choices to three.

“One surprising thing we found was that not all the devices do what they say they will,” said bioengineering major Dasom Ko ’17. The students learned to be critical of technology while using it for a specific purpose. “Our kit of sensors had to make sense of what we needed to learn from educators,” said Karen Huang ’17, a cognitive science and design major.

The group also worked on software that integrates data from wearable devices with principals’ answers to questions that are pinged to them. Common methods of data collection have used logs or beepers to record how people spend their time, but smart-wearable technology eliminates observer bias to yield more comprehensive data, Hochbein said.

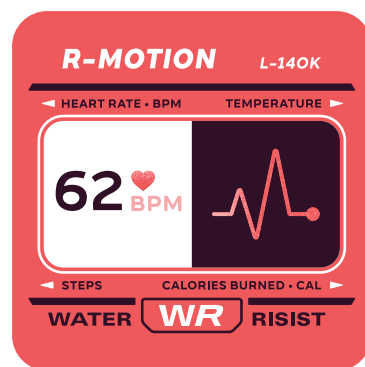
Jordan Alam ’19, a computer science and business major, created the mobile app that sends the queries to participants and allows them to input their answers.

“We want to know what the principal was doing [at a particular moment],” he said. Data return is more robust when an event-sampling methodology is used. Multiple forms of data come in at regular intervals—location, heart rate, position (such as standing or sitting). Adding data, such as when the program pings a principal for more information, provides a richer source of information, said Mahone.

Computer engineering student Sudipta Chowdhury ’17 wrote the code for software to integrate multiple types of data into a single cohesive format. “We collected all the raw data in a database and had to make sure it could work with different devices so we could analyze it later,” he said.

Dan Kramer ’16, a computer science student, looked to take advantage of a school’s WiFi network to figure out a principal’s location at any given time. By grabbing the IDs of WiFi access points, he said, “we can see how much time they spend in a certain room or place.”

Mahone said the project has “huge implications for education research.” ○





BY MARY ELLEN ALU

PHOTOGRAPHY BY
MILO ZANECCHIA

A Labor of the Heart

The Lehigh University-Caring for Cambodia partnership takes an innovative approach to sustainable education.

The Lehigh University-Caring for Cambodia partnership is an intellectual and innovative endeavor that epitomizes the core of the College of Education's mission: to develop reflective professionals and scholars who are informed by theory, research and evidence-based practice.

Now entering its sixth academic year, the unique partnership aims to give Lehigh students practical learning experiences grounded in exemplary instruction and training and cutting-edge research. At the same time, it aims to provide Caring for Cambodia with much needed documentation, analysis and research to support the non-profit organization's schools and programs in Siem Reap.

"Traditionally [college] students take up to one year after graduation to gain practical experience," said Sothy Eng, professor of practice in Comparative and International Education and director of the LU-CFC partnership. "Now, with this partnership, students can use what they learn in class here on campus and have the advantage of taking that knowledge and applying it to real-world experiences in Cambodia. They learn how to come up with research ideas and research questions. They learn the whole process of doing research. These theory-to-practice opportunities allow students to enter the work force with a competitive curriculum vitae."



Caring for Cambodia was created in 2003 by Jamie Amelio and her husband Bill '79,'08H. While touring the famous temples of Angkor Wat during a visit to Cambodia, Jamie was approached by a 9-year-old girl who asked for a dollar to go to school. After seeing first-hand the deplorable conditions in the schools and learning about the genocide in the late 1970s that had targeted the educated, Jamie vowed to help Cambodia's children.

The Amelios first raised money to buy uniforms and backpacks for a school in Siem Reap, then opened CFC's first school, the Spean Chreav Amelio Primary School. Over the next 13 years, CFC grew and now operates 21 schools, all in Siem Reap, that support more than 6,600 Cambodian children and provide health and dental screenings, early education and other programs.

"It's a labor of the heart," said Bill Amelio, who speaks passionately about the schools, students and teachers. "We've nailed the program down as far as what works, what doesn't." Now the question is, "how do we make it sustainable?"

Amelio isn't alone in seeing the potential for the CFC model to make a tremendous impact on Cambodian education.

A declaration in 2014 by Cambodia's Minister of Education, Youth and Sport, Hang Chuon Naron, states that Caring for Cambodia is "the standard of education" for the Southeast Asian country. "We are designating CFC schools as the model schools for all of Cambodia," Naron said. "We need to learn

from what has been done here and spread the best practices across the country.” In 2016, the Ministry’s Education Congress report mentioned CFC’s exemplary library and career preparation programs.

From the start, Bill Amelio said, they sought to make the CFC model sustainable and scalable as well as the de facto standard of education for pre-K through 12th grade. They wanted CFC students to acquire the skills they’d need to get a job or pursue higher education.

“We also wanted to stay true to what we do and focus on the critical few [goals] and not the trivial many,” said Amelio, who has held top positions in companies that include IBM, Dell computers and Lenovo. “That served me well in business, and it serves well in charities. One of the reasons most charities fail is that they want to do too many things, and they have trouble getting things done.”

As part of the approach to careful management of the CFC model, Lehigh faculty and students have utilized sound educational research to help CFC to better understand its current programs. Through the partnership, more than 150 Lehigh students have travelled to Cambodia to collect data and implement programs related to their coursework.

Lehigh students and faculty have produced some 30 reports and grant proposals, allowing CFC to better assess what works. Among the findings:

- Students in CFC schools are significantly less likely to drop out of school than those in other government schools.



- Parents who participate in CFC’s village-based preschool program enroll their children in primary schools 1.5 years sooner than parents who do not participate in the program. That’s significant, Eng says, given that late enrollment has been a concern throughout Cambodia, as parents often don’t understand the importance of enrolling their children in first grade at the appropriate age, which is 6.

- CFC graduates are more likely to go to col-

lege. A 2016 study showed that 34 percent of CFC graduates have gone on to college, compared with the national average of less than 15 percent.

- Among teachers, 86 percent saw remarkable improvements in student attendance and achievement as a result of CFC’s Food for Thought program, which provides students and families who bring them to school with the opportunity to eat two meals per day. It now provides 240,000 meals each month to students and their families.

“If you can’t think when you are at school because you’re hungry, you’re not going to learn,” said Bill Amelio, who, though initially reluctant to launch the food program because he feared CFC was trying to do too much, became convinced it was the right thing to do.

In other CFC programs, hands-on teacher training has resulted in more interaction between teachers and students, brighter classrooms and more effective teaching, Bill Amelio said. CFC provides stipends and bonuses to teachers so they refrain from the pervasive and problematic practices associated with private tutoring. A Lehigh evaluation conducted in 2015 indicates that the training and workshops have led to more student-centered learning in their classrooms.

Although housed in the College of Education, the partnership draws students from across Lehigh’s other three colleges (Engineering, Arts and Sciences, Business) and disciplines. Undergraduates in the Computer Science and Business Program have been working for three years to develop a new database system for CFC schools that will allow for better tracking of data, such as grades, absences and health information. Led by professor Ronald W. Crane, the students also have created a mobile application to collect attendance data for Food for Thought and are working on enhancements to the Health Information module.

It is from this cultivated interdisciplinary and collaborative effort that a Mountaintop Initiative project began to take shape.

“The partnership is growing, and we needed to ask some big questions related to sustainability and education,” said Whitney Szmodis, a Lehigh research scientist for the partnership. “Mountaintop is the perfect setting to bring students and faculty together to pursue meaningful and innovative answers to those questions.”

The Mountaintop Initiative allows faculty and students to escape a classroom’s confines and

design projects that emerge from what a team wants to know, not what it needs to know to pass a course or learn a skill. The experience fosters exploration of open-ended questions with no right or wrong answer.

Over 10 weeks in summer, a team of six graduate and undergraduate students from diverse backgrounds explored whether the CFC model can be realized, implemented and sustained *sans* the benefit of an NGO-managing entity at the national level, and if not, what are the ramifications of reliance on external entities for a national education system? The team was led by Eng, Szmodis and Mark Orrs, professor of practice and director of Lehigh's Sustainable Development Program.

"We wanted a team that could explore all angles of sustainability, including the relationship between schools and the social, economic and environmental influences they face," said Szmodis. "The best way to wrap our heads around these big questions is to bring together a diverse group of students to try and better understand the dynamic relationships between schools, systems and their ability to evolve in sustainable ways."

The team—Fulbright scholar Fayaz Amiri '16, Harneel Riar '18, Mikayla Cleary-Hammarstedt '18, Nicole McCallum '18 and doctoral candidates Anuradha Sachdev and Fatih Aktas '13G—explored how the relationship between Cambodia's socio-political and economic climate drives discourse around sustainability.

"Working with the Mountaintop team provided a great opportunity to look at my research with a new perspective in the context of current geopolitical discourses and socio-cultural needs of Cambodian students and their families," Sachdev said. "As a doctoral student, I have worked with the LU-CFC partnership for many years. Mountaintop is unique in that our team's cross-disciplinary perspectives provided us with rich discussions that deepen our understanding and gave us new lenses to examine the multiple dimensions of the issues surrounding educational change in Cambodia. The energy from our team was infectious. We had fun!"

The team looked at where CFC and ministry programs were already in alignment and where there

were gaps. It built a 3-D model of a CFC school, using 3-D resources available to all Mountaintop teams, as well as an online virtual site to better disseminate information and spur discussion. Ultimately, team members said, they hoped to create a framework for programming that will lead to policy recommendations for the Cambodian Ministry.

"I have been working with the LU-CFC partnership for four years, looking at various projects and finding ways for sustainable development and



educational change to critically examine international development," said Orrs. "Our Mountaintop project has brought all of this hard work together to create a new and creative way to collaborate for years to come."

As the Mountaintop team addressed how to create and maintain a sustainable school model within Cambodia's existing educational system, it also began to examine how CFC programs could be streamlined or modified. "We don't know," Szmodis said. "We're asking those very big questions."

As for the future of the LU-CFC partnership, this is "the first big step toward understanding how we can provide Lehigh students with an enhanced experience that includes opportunities to think outside the box, while at the same time recognizing the importance of aligning those ideas with rigorous theoretical analysis," said Eng.

The outcomes from the Mountaintop project will provide faculty and students with a clear vision of how to incorporate many of the identified areas of interest into their classrooms and research in the upcoming year. The research will be ongoing. ○



School Reform Debate

Obscured by the rancor of the school reform debate is this fact: Socio-economic status is the most relevant determinant of student success in school.

It is not a coincidence that the so-called decline of the American public school system has coincided with the ever-widening gap between the rich and the poor. According to a 2014 Pew Research Center report, the wealth disparity between upper-income and middle-income families is at a record high. Upper-income families are nearly seven times wealthier than middle-income ones, compared to 3.4 times richer in 1983. Upper-income family wealth is nearly 70 times that of the country's lower-income families, also the widest

wealth gap between these families in 30 years.

As the income disparity has increased, so has the educational achievement gap. According to Sean F. Reardon, professor of Education and Sociology at Stanford University, the gap for children from high- and low-income families is at an all-time high—roughly 30 to 40 percent larger among children born in 2001 than among those born 25 years earlier. With 22 percent of children in the U.S. living in poverty, this country's 27th-place PISA ranking—the

worldwide study that measures K-12 academic performance—simply cannot be compared to a country like Finland, which ranks 12th and, at 5.3 percent, has the second-lowest child poverty rate in the world.

So why are wealthy school reform funders so squarely focused on identifying teachers and their unions as the cause of public education's decline and advancing charter schools as the best solution?

Charter schools will never be the answer to improving education for all. It is simply not scalable. And yet titans of industry such as Bill Gates, Eli Broad and the Walton family, and billionaires such as John Paulson who gave \$8.5 million to New York's Success Academy charter school

system, are pouring their millions into support for charter schools—millions that will not, incidentally, be invested in improving the schools that the vast majority of U.S. students attend—traditional public schools.

Can it be a coincidence that those who have benefited most from the last 50 years of steadily increasing income inequality—the top 10 percent—support an education solution that hinges on denigrating public school teachers, dismantling unions and denying that income inequality is the underlying condition at the root of the problem?

The most generous explanation for this phenomenon says that the wealthiest among us are motivated to support charter schools purely out of ideology. They are operating under deeply held beliefs that a school system run by the government smother innovation and that teachers unions inhibit a free market system that, if allowed to operate, would result in better teachers and child outcomes. In addition, these philanthropists believe that public education has become so hidebound that meaningful change within the system is no longer possible, and that fresh ideas and programs not beholden to a system that resists change will provide programs and ideas that are more effective.

Another explanation that has been posited is that good, old-fashioned greed is at the root. After all, the wealthy did not achieve their wealth through an indifference to achieving a return on their investments—and our public school system is a \$621 billion per year endeavor. For example,

a recent investigation by the *Arizona Republic* found that the state's charter schools purchased a variety of goods and services from the companies of its own board members or administrators. In fact, the paper found at least 17 such contracts or arrangements totaling more than \$70 million over five years.

In addition, there are specific tax loopholes that make it especially attractive to donate to charter schools. Banks and equity and hedge funds that invest in charter schools in underserved areas can take advantage of a tax credit. They are permitted to combine this tax credit with other tax breaks while they also collect interest on any money they lend out. According to analysts, the credit allows them to double the money they invested in seven years.

Another explanation suggests a darker motivation. The wealthy's focus on charter schools is a strategy to weaken unions, one of the few reliable Democratic voting blocs that remain. It is also a convenient way to deflect from the fact that they have benefited most from income inequality and that

their business practices—such as moving manufacturing jobs overseas and reducing their tax burden by taking advantage of offshore tax havens—have been among the causes of income inequality and the accompanying erosion of the middle class.

So, if you are a philanthropist from the tech or finance sectors and your goal is truly to fix education in this country, you would do well to apply your generosity, innovative spirit and funds toward addressing the problem of income inequality. Your wealth and position as prominent business leaders put you in a particularly influential position to help close the gap between the wealthy and the poor. Rebuilding the middle class—not expanding charter schools—is the most effective path to increasing access to quality education and to giving more students the opportunity to achieve their dreams.

Gary Sasso, dean of the College of Education, Lehigh University

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Opting Out

A growing number of parents across various states have allowed their children to opt out of taking standardized tests, arguing the scores are improperly used to evaluate students and teachers. This movement begs the question—what are the merits of standardized testing?

Craig Hochbein, assistant professor of Educational Leadership in the College of Education, challenged graduate students in his public education policy class in summer 2016 to write opinion-editorials that discuss the role and influence of standardized testing. Here are excerpts.

Elizabeth Babbitt

*Instructional support teacher,
Lower Macungie Middle School
in the East Penn School District*

I am not alone, as an American parent, in seeking regular medical care for my children. In fact, I am confident other parents would



rightfully label me as negligent if I did not. Our pediatrician checks my sons' growth annually to make sure they are on track. She screens their blood and urine for signs of deficiencies or illnesses, checks their blood pressure, pulse, and reflexes, and protects them from diseases.

Why would I approach their academic well-being any differently? I want regular, objective information from their schools that

tells me where they stand academically. If there are concerns, I want to know—and I expect that their teachers and schools would want this same information. And just as the health of our nation is stronger when all children receive regular health care, our educational well-being is also strengthened when the widest range of children and schools participate in structured standardized testing processes.

If we do not know where our children stand in their academic abilities, how can we nurture their development? Gathering information about our children's status to help them thrive makes sense in medicine, and it makes sense in education. Opt-out advocates, many teachers unions and some vocal parents disagree, and they are working to disrupt or eliminate standardized testing. This strategy risks our ability to help our students and has the potential to damage the public's perception of educators.

Educators owe it to students and schools to work...to improve our measures. Parents, unions and other objectors can strengthen

the system by working to change it for the better, rather than just walking away by opting out or advocating the abolishment of standardized testing. ○

Robert Nichols

*Communications director,
College of Arts and Sciences at Lehigh*

My neighbor has two daughters, one in second grade and one in sixth. I asked her what she thought about the PSSA, Pennsylvania's standardized achievement test. "Don't get me started," she exclaimed. "I've never dealt with such angst in the kids. I'm tempted to opt out next time."

My two children are out of school. My wife and I actively participated in their educations, but for nine years, we questioned the need for standardized testing. I never felt the assessments provided me with a complete picture as to how my children were progressing.

We need criterion-oriented assessments that provide an understanding of student and school performance. But I posit that standardized testing appraises a student's performance on one particular day and does not consider external influencers. What happens if a student has a death in the family just before the assessment? What if a student is frequently bullied and is fearful of





attending school?

With standardized exams, all students answer the same questions under the same conditions. These tests are full of questions that may not have the same meaning to all students. They do not measure the ability to think deeply or creatively in all fields.

Standardized testing is a snapshot, no more. Not every student progresses at the same rate. A better gauge would be to assess progress over the course of an entire academic year.

Standardized tests such as the PSSA do nothing more than place intense pressure on teachers and schools, teach students to learn what is on a test and not the overarching content, and give the public an incomplete and inaccurate picture as to the academic health of their local schools. And that is not good for education. ○

Katie Makoski

Compliance analyst, Communities In Schools of the Lehigh Valley

It is in students' best interest for educators and policymakers to agree [on] a minimum standard for



what every high school graduate should know. A set of national education standards, such as the Common Core, ensures a very basic level of equality in the quality of education in schools across the country. Yet standards-based testing as it is being implemented now

is not helping students meet those standards, nor is it helping schools maintain those standards.

For all of the number-crunching that goes into collecting standardized test scores for students in classrooms across the country, very little, if any, good data is produced. A primary issue with the current system of testing is that states have each been free to develop their own tests. This causes the threshold for proficiency to differ from state to state. This disparity has been evident when student achievement data produced by certain states—Mississippi, for example—has varied greatly from the data collected through the administration of the National Assessment of Educational Progress tests. The question that follows then is whether any of the state-produced standardized tests are valid measures of student proficiency.



A second significant issue with the current system of high-stakes testing is that test scores are treated as though they are measures of multiple items: student learning, teacher effectiveness and school quality. It is arguable whether test scores are valid measures of any of these. It is certain that the scores are not valid measures of all of these. Yet, provisions of No Child Left Behind and Race To The Top have led to many teachers and principals being removed from their jobs, based on their students' scores on standardized tests.

This type of punitive action—in addition to being unfair to the teachers and principals—harms students by creating instability within schools. A smarter and more sustainable solution to the problem of allegedly ineffective teachers and principals would be to use support from the federal government to provide rigorous, research-based professional development to staff at persistently underperforming schools. This is not to say, though, that there will be a one-size-fits-all solution.

"For all the number-crunching that goes into collecting standardized test scores... very little, if any, good data is produced."—Katie Makoski

This is where the American culture of local governance of schools comes into play. Those who operate a school district—superintendents, principals, teachers and countless support staff—know the challenges that face their school communities best. They simply need guidance and resources in creating the solutions that will work best for their schools and students. ○

Sara Vanderbeck '09G

Lead Teacher, Centennial School of Lehigh University

Dylan enters my high school classroom—hood up, headphones in—looking as awake as any other 17-year-old at 7:45 a.m. Dylan attends Lehigh's Centennial School, an approved private school for students classified with emotional disturbance and autism. Today he will participate in Pennsylvania's statewide standardized test, the Literature Keystone Exam.



"Mrs. V., why do I need to take the keystones?" he says dispiritedly as he removes his hood. Tears well in his eyes as he says, "I already know I'm way

standardized tests can provide fair, valid and reliable assessments when used for their intended purpose. [In] my Centennial literature class, six of seven students scored Proficient on the Literature Keystone Exam after most scoring Basic in eighth grade. In that case, the Keystone was an accurate measure of their academic growth. I could expound on how historically low expectations and poor curriculum for students with disabilities can be counteracted by the use of statewide standardized assessments to identify schools that need help improving their special education programs.

Dylan has participated in over a dozen standardized tests. He doesn't understand that the Keystone is only one small piece of his academic picture. I can only imagine the frustration and discouragement as Dylan attempts to read the difficult text on the Keystone Exam [and realizes] that despite his hard-won progress this year, he is not reading on the same level as his same-aged, nondisabled peers.

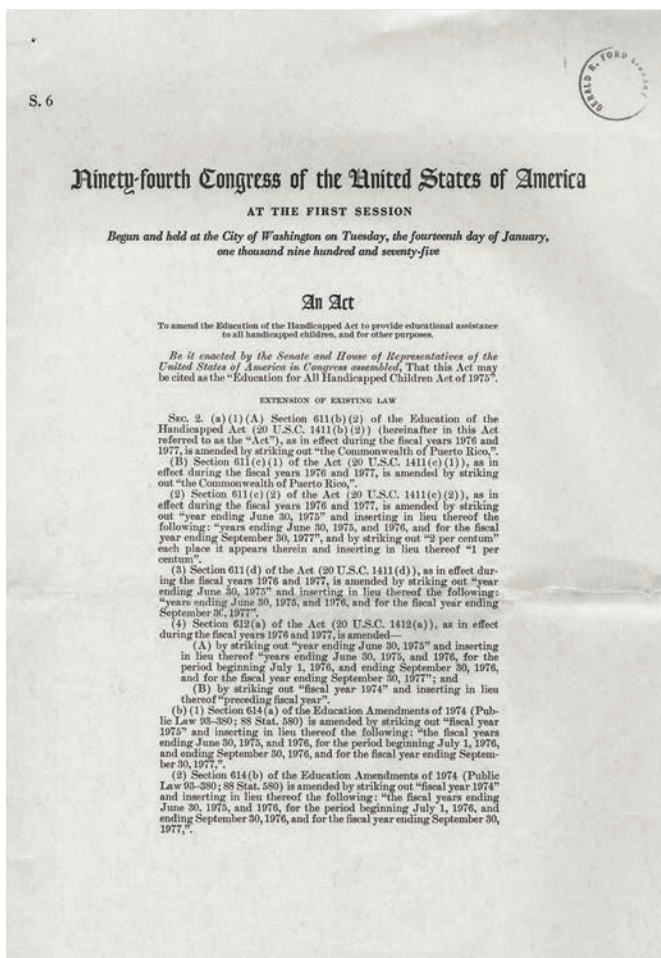
As Dylan's eyes fill with tears, I remind him of how much progress he made this year, encouraging him to do his best and take breaks as needed. But I can't help but think that his Keystone Exam scores will most likely mirror the results of the other assessments Dylan participates in at Centennial. The keystones are arguably a valid measure of his academic achievement, but the unintended consequence of these valid results is Dylan's demoralization. ○

To read the full versions, go to lehigh.edu/theorytopractice

below grade level. This is just going to make me feel stupid."

I know that the Keystone Exam is not going to show Dylan's incredible academic gains this year. It is not going to illustrate that he increased his reading fluency skills from second to fourth grade level. One standardized test will measure only a small part of his education.

I could explain to Dylan that



IDEA's Impact

The Individuals with Disabilities Education Act changed the landscape of schooling for children with special needs like no law before or since.

When Congress enacted it in 1975, Public Law 94-142—originally named the Education for All Handicapped Children Act—mandated that children with disabilities were entitled to a “free, appropriate public education” in the “least restrictive environment.” When possible, they should be educated with students in regular schools.

Before IDEA, children with disabilities were often segregated or warehoused in state institutions with no guarantee of proper assessments or schooling. That meant more than a million children had no access to public schools. Some states specifically barred those with certain disabilities from attending regular schools, including those who were

deaf or blind.

Central to the law is the Individualized Education Plan or IEP. Teams of teachers, administrators, counselors and parents come up with a strategy for what supports and accommodations a student will need to meet educational goals. It's up to the school to follow that plan.

“I have signed this bill very reluctantly. It promises more than the Federal Government can deliver and its good intentions could be thwarted by the many unwise provisions it contains.”

—Gerald R. Ford

Still, the effort to mainstream students hasn't been free of controversy. While advocacy groups push for more inclusion, the parents of some special needs students have fought to obtain placements for their children in special schools, which are sometimes more expensive than regular schools. School districts complain that federal funding for special education hasn't kept up with actual costs.

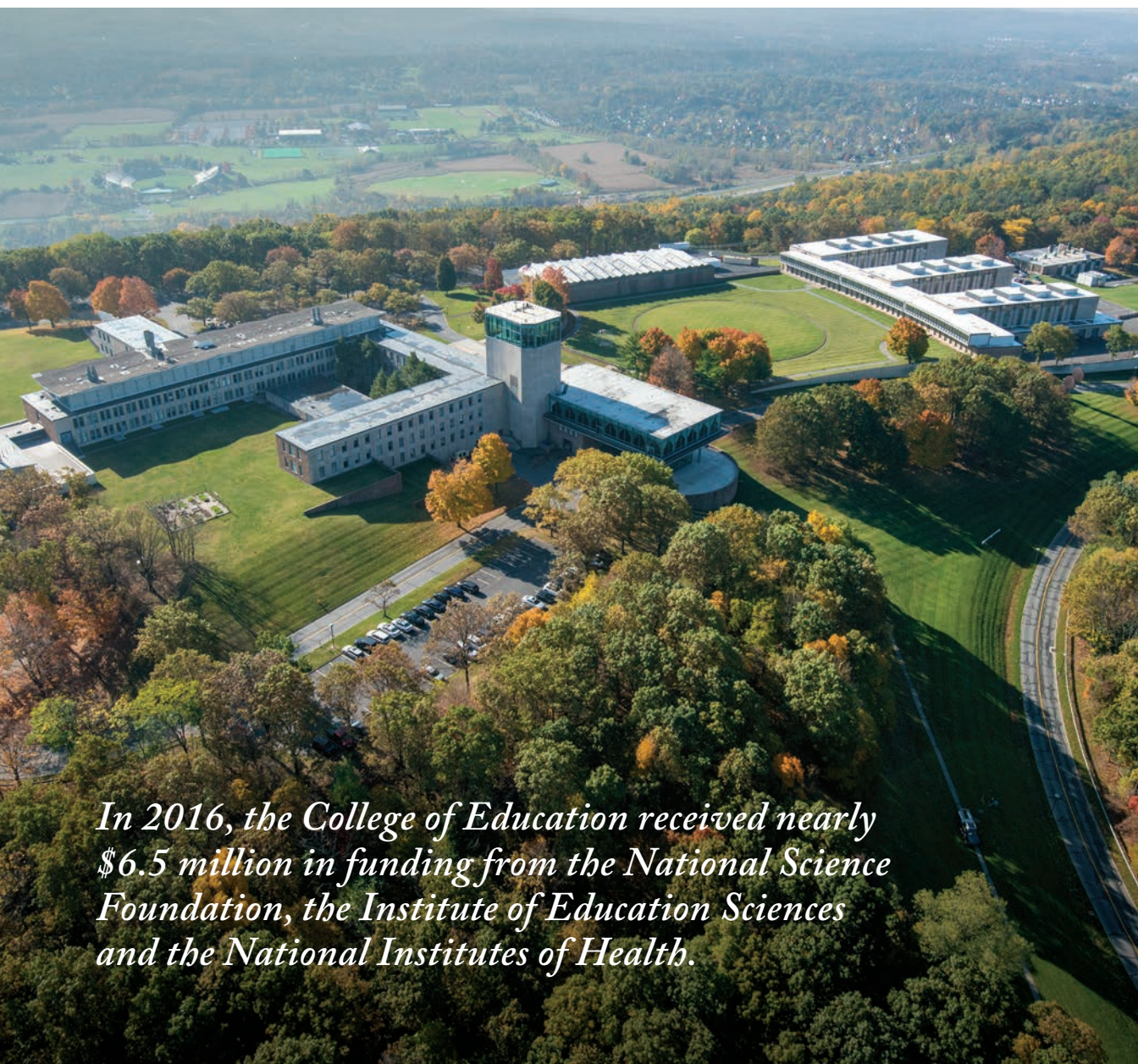
Inclusion also has tested teachers, who now must manage classrooms for students with a wide array of abilities and behaviors.

But IDEA's impact has opened the door to opportunities once out of reach for many disabled people. Special needs students who went through school since the implementation of IDEA are twice as likely to have jobs than older adults with similar disabilities who didn't benefit from the law. ○

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