Middle Schoolers Help Fight Cyberbullies

$1.2M NSF Grant Funds Innovative School Partnership

A recent study indicates that 9 percent of students in grades 6 to 12 had experienced some form of electronic bullying.

According to StopBullying.gov, which released the report, the abuse can happen 24 hours a day, seven days a week, and kids who are victimized are more likely to use alcohol or drugs, skip school, receive poor grades, have lower self-esteem and experience more health problems.

In response, students in a class at McGlynn Middle School in Medford are trying to address the issue through computer programming, with the help of Assoc. Prof. Fred Martin of the Computer Science Department.

“The students are anxious to develop mobile apps that would help fellow teens deal with cyberbullying and its effects,” says McGlynn art teacher Debbie Corleto. “The apps would help them know the warning signs of cyberbullying and how to seek help. The students have also brainstormed ideas on how to deal with other types of bullying such as physical, verbal, social and emotional abuse.”

The project is one of the unique apps being built in the “Middle School Pathways in Computer Science” program headed by Martin, who was recently awarded a three-year $1.2 million grant by the National Science Foundation to create a partnership between the university, the Tri-City Technology Education Collaborative and the school districts of Medford and Everett that would bring project-based, socially relevant computing experiences to middle-school students.

“We want to give all middle-schoolers in the partner districts a taste of what computer science is about,” says Martin. “In the bigger picture, we want kids to realize they can use computing to make a positive change in the world.”

Pathways will create a 15- to 20-hour computing curriculum that will be integrated with the districts’ existing technology and engineering courses. By the program’s second year, the curriculum is expected to be implemented in other district middle schools, reaching up to 450 students per year. In addition, the Pathways team will conduct intensive 30-hour summer camps for 140 students per program year.
New Office of Sustainability Takes Root

Office Centralizes University’s Longstanding Environmental Efforts

From climate change to composting, transportation to facilities, UMass Lowell’s commitment to sustainability through education, research and innovation is nothing new.

What is new is the university’s Office of Sustainability, which was launched this semester to provide a centralized, campuswide resource for those longstanding efforts.

“The importance of this office can’t be overstated,” says Richard Lemoine, director of environmental and emergency management and co-chair of the Committee for Sustainability. “This gives the university the opportunity to centralize all of its sustainability services and to provide support and access to our curriculum, to our research, to our building operations, to our infrastructure. It allows us to share best practices for sustainable efforts throughout the fiber of the university.”

The Office of Sustainability is already busy with new initiatives.

For the first time, the university is signing up for the Sustainability Tracking, Assessment & Rating System, a self-reporting framework that measures the sustainability performance of colleges and universities. Managed by the Association for the Advancement of Sustainability in Higher Education, it awards bronze, silver, gold or platinum status. In February the university also submitted data to the Princeton Review as it seeks to be designated as a “Green Campus.”

Researchers Win $1M Grant to Protect Construction Workers

Reactive Chemicals in Products Cause Health Risks

Most construction workers have been exposed to epoxy resins and isocyanates, highly reactive chemicals that can cause severe health problems such as occupational asthma and contact dermatitis, risking both well-being and livelihood.

Very little research on worker exposures and solutions to limit exposures has been conducted, until now.

The National Institute of Occupational Health and Safety (NIOSH), through the Center for Construction Research and Training, awarded a five-year, $1 million grant to Assoc. Prof. Dhimiter Bello and Prof. Susan Woskie, both of the Department of Work Environment, to study ways to keep workers safe.

“The products that contain these chemicals are widely used in construction, but very little data on rates of exposure and impact on health is available,” says Bello.

Epoxies and isocyanates, used in construction due to their versatility and performance, are found in a vast range of materials such as steel building exteriors, interior floor and wall coatings as well as spray foams for insulation, and resins used for caulks and mortars.

“Our goal is to identify the tasks and processes of construction associated with the highest exposures and then target the worst cases for intervention research,” says Woskie. “We want to evaluate control options to find the most effective ways for workers to avoid exposures and remain safe on the job.”

For Police Interns, a Badge of Honor

Criminal Justice Students Learn about Federal Law Enforcement with Park Rangers

Nanishka Pulsifer spent four years attending high school next door to the Lowell National Historical Park’s police headquarters but she never quite figured them out.

“I never really understood what they did,” says Pulsifer ‘14, a graduate student pursuing her master’s degree in criminal justice and police science.

Thanks to the UMass Lowell Police Department’s internship program, criminal justice students like Pulsifer are not only gaining a deeper understanding of the police work done by U.S. National Park Rangers in Lowell, they’re also discovering a new potential career path in federal law enforcement.

“I knew I wanted to work in federal government but I’d never considered the National Park Service because I never realized they were federal agents,” says Pulsifer. “Now I’m definitely interested.”

UMass Lowell Police Chief Randy Brashears launched the 140-hour, three-credit internship program in 2011 as a way to give criminal justice students a behind-the-scenes look at what it’s like to work in law enforcement, from investigations and dispatch to patrol ride-alongs and community policing.

Students begin the National Park Service portion of their internship at police headquarters for a brief interview about career aspirations and an introduction to the rangers’ arsenal of weapons. Other activities include ride-alongs through the city and sitting in on federal court proceedings at U.S. District Court in Boston. As federal agents, the rangers prosecute their own cases.

U.S. National Park Ranger Michael Choquette shows senior Kim Fairweather police gear before her internship ride-along through downtown Lowell.

Learning with Purpose
Study Shows Multilingual Kids Have an Edge

Exposure to Mother Tongue Helps English Language Development

Children who grow up hearing and speaking multiple languages have an advantage over their monolingual classmates, according to a research conducted by Allyssa McCabe, professor of psychology.

“The best way for a child to excel at English is to be good at their own native language,” says McCabe. “The message from academic research is that, at home, parents should stick with the language they know best—English will take care of itself in time and be better as a result.”

McCabe’s research, done in partnership with fellow scholars in language development, is the basis for the latest social policy report called “Multilingual Children: Beyond Myths and Towards Best Practices, published by the Society for Research in Child Development.” The report is endorsed by the American Academy of Pediatrics.

While children who hear fluent conversations in multiple languages are able to learn one or more simultaneously, those who hear little of their mother language or low-quality English do not have the same advantages. This is often the result of parents being told to avoid speaking their mother language with children. Parents for whom English is not a first language may prioritize English, while they are still learning it, resulting in the loss of a child’s native tongue.

“If you downgrade your heritage language,” says McCabe, “you deprive a child of access to a whole lot of enriching experiences that can also impact on their reading ability and access to the school curriculum.”

Research presented by Prof. Allyssa McCabe in a recent report shows that multilingual children are most successful when taught both their mother tongue and a new language such as English.

Eames Demolition Begins

After 67 Years, North Campus Dorm Gives Way to New Business School

The heavy equipment is back at work on the UMass Lowell campus. Demolition of Eames Hall has begun, clearing the way for construction of the $41.5 million Pulichino Tong Business Building, slated to open in spring 2017.

Eames Hall has stood on the corner of University Avenue and Riverside Street since 1948, when it opened as one of the first two dormitories for the Lowell Textile Institute. The 118-bed dorm has been home to thousands of students over the past seven decades, most recently as housing for the Honors College.

In 2011, Eames’ sister building, Smith Hall, was taken down to make way for the Mark and Elisia Saab Emerging Technologies and Innovation Center.

The Pulichino Tong Business Building will house the Manning School of Business. The four-story, 54,000-square-foot building will include a specialized lab that can be used as a financial trading room, as well as 10 technology-enhanced classrooms and seminar rooms to accommodate more than 400 students.

Eames Hall, which has housed thousands of students over the past seven decades, is being demolished this spring to make way for the new Pulichino Tong Business Building.

Along with the Saab Center and nearby academic and laboratory complex, the Pulichino Tong Business Building will be at the heart of the North Campus Innovation District, which brings the university’s engineering, science and business programs together for students, entrepreneurs and industry partners.

The building will be named for alumni John Pulichino ’67 and his wife, Joy Tong ’14 (H), who have donated more than $4 million to student scholarships.

Researchers Offer Fatherly Advice to Companies

Business Prof Studies Evolving Identity of Working Dads

As a working mom herself, Asst. Prof. of Management Beth Humberd knows a thing or two about balancing a family with a career.

Researchers have spent decades examining how this balancing act impacts working mothers, but only recently have begun to examine the effects on the other half of the parental equation: working fathers.

So when a new study co-authored by Humberd called “Updating the Organization Man: An Examination of Involved Fathering in the Workplace” was published in February’s Academy of Management Perspectives, people—and companies—took notice.

“If in the last five years or so, researchers in this area have realized that we don’t talk enough about the men,” says Humberd.

The study surveyed 1,000 working fathers and found that the more time fathers spend with their children, “the more satisfied they are with their jobs and the less likely they want to leave their organizations.” They also experience “less work-family conflict and greater work-family enrichment.”

The study concludes that organizations should stop holding working fathers to “outdated gender norms and expectations” and not only provide, but encourage, paternity leave and other flex-time policies.

Those organizations that do adapt will benefit by having happier and more loyal employees, according to the study. That’s the takeaway from the research that’s grabbed headlines in Time, Fortune and Forbes magazines, as well as The Wall Street Journal and PBS.

Asst. Prof. of Management Beth Humberd researches gender and diversity in organizations, individual identity development and interpersonal relationships.
Plastics Engineering Turns the Big Six-O

From Small Beginnings, UMass Lowell has Become an International Leader in Plastics Education and Research

It started with eight students and a keen insight into the world to come. Plastics engineering did not exist as a field when Prof. Russell Ehlers started the plastics program at Lowell Technological Institute with eight students in 1954. Before World War II, products made of plastics were not mass produced. During the war, plastics came into great demand for military purposes as substitutes for materials in short supply.

What to do with all the new knowledge and technology about plastics production once the war ended? Enter Tupperware, Formica counters, Naugahyde chairs, acrylic taillights, Saran wrap, vinyl siding, squeeze bottles, Barbie dolls, Wiffle balls, sneakers and countless more plastic products.

The emerging industry would need engineers to improve production equipment and processes, develop new materials and design new products. Ehlers hired a strong team of creative faculty to develop a curriculum and laboratory facilities to give students both theoretical and practical experience.

Today, the Plastics Engineering Department at UMass Lowell is an internationally recognized leader in plastics engineering education and research. More than 3,000 graduates are working in the plastics industry in leadership positions worldwide.

Plastics research at UMass Lowell has led to advances in biomedical devices, parts used in space exploration, 3-D printing and advanced materials that better protect soldiers.

Happy 60th

In March, over 350 students, alumni and corporate partners gathered in Florida to celebrate the department’s 60th anniversary.

At the celebration, a new Plastics Sustainability Research Lab at UMass Lowell was dedicated, established by the Plastics Society of Engineers.

“The lab will address issues with electronics, carpet recycling and other items that are not being recycled today for economic or technical reasons,” among other activities, says Robert Malloy ’79, ’88, chairman of the department.

The event also marked an opportunity to thank the alumni, friends and corporations who have established more than 60 scholarship endowments.

“These endowments help our talented, hardworking students continue their studies,” says Malloy. “Both the financial assistance and the vote of confidence are invaluable.”

The endowed funds are part of an impressive tide of giving that has marked the quiet phase of Our Legacy, Our Place: The Campaign for UMass Lowell. The $125 million campaign will have its official launch in late October.

Steve Orroth Honored

Recently retired faculty member Prof. Steve Orroth ’66, ’74 was honored at the event with the Professor Russell W. Ehlers Lifetime Achievement Award. Orroth joined the department in 1962 as a student and became a dedicated and beloved faculty member until his retirement last year. Over the decades, he played a key role in the education of over 2,000 students.

“When I asked people to sum him up in a few words, everybody kept coming back with same responses: kind, caring, selfless,” says Malloy. “If there was a line of student outside his office, even if he had a meeting to get to, he would make sure he spoke with everyone. If it wasn’t for Steve they might never have finished school.”

UMass Lowell Students are Work Ready, Life Ready, World Ready