



GO! International Senior Design in Bolivia

Karina Jousma

In the outskirts of Santa Cruz, Bolivia, the sound of pounding nails and mixing aggregate reverberates on a cool, August day. Michigan Tech engineering women—including Bailey Gamble, Amanda Kohler and Kim Zielesch—mix, transport, shovel, and pour concrete for a second-floor slab at a school named Colegio Walter Henry. The Tech students, part of an International Senior Design (ISD) class, spent two weeks abroad investigating problematic sites within the Santa Cruz's infrastructure and helping build a schoolroom. "I enjoy being able to work," said Zielesch, "being able to build something."

This ISD course, part of Michigan Tech's *International Sustainable Engineering Initiative*, began in 2000 and boasts 55 percent female participation. Linda Phillips, lecturer in MTU's Department of Civil and Environmental Engineering, said students in her Professional Practice class asked, "Why can't we go build the project that we wrote specifications for?" Since then, the class has traveled to Bolivia and the Dominican Republic with the goal of aiding the developing world through engineering.

"In the next 20 years," Phillips said, "90 percent of the growth (and thus engineering challenges) will be in the developing world. Engineers will play a pivotal role in changing living conditions (in developing countries)." ISD fulfills that role. "What a huge impact our project could have on people down there; it shows how powerful ISD really is," said Zielesch.

ISD students gain practical experience because the class functions like an engineering design firm in industry. It incorporates all phases of a project, from defining scope to construction. Zielesch said that defining the scope of her group's storm drainage project was difficult, but Phillips guided them well. "[Our project] began as a road pavement project," said Zielesch, "it kept changing... Linda helped us define exactly what we had to do. I feel better about it after sitting down with her."

Mentors also assist engineering students through the design process. Heidi Steudle, a 2003 ISD alumnus, returned this year as a mentor. "My goal was to help students," Steudle said, "I think I accomplished that." ISD also seeks the expertise of students outside civil and environmental engineering. This year, one student in mechanical engineering, and one in scientific and technical communication, joined the class. "The trip was definitely more than I expected," said mechanical engineering major Bailey Gamble. "I gained invaluable engineering experience, and I guess that was my main expectation... The class was so dynamic and well-rounded that it really exceeded any expectations I could have had."

Phillips also encourages participation from outside of the College of Engineering. "Every successful engineering project requires more than engineering," said Phillips. "Social, cultural, economic, educational, and political aspects of the project are as important as the engineering. Without properly considering these, an engineering project will not be fully successful."

In August, Phillips returned to Santa Cruz with ISD for the sixth consecutive year. This year's class was composed of 13 students and four ISD alumni as mentors. Participants felt safe and welcome while abroad. "We're well protected, and traveling smartly has helped me to not worry so much," said Kohler. "The people are still as warm as ever," said Corrie Craft, mentor and a 2005 ISD alumnus.

Students built more than a school, which is apparent in examples they echoed during interviews. "What I valued most is that I learned more about people," said Gamble, "and that's something I can never learn in a class; it's something I can only learn by throwing myself into situations like ISD." "This class will provide you with a hands-on-experience and so much more," said Steudle. "It's not only educational, but also rewarding. I have more confidence now in my engineering ability. This class showed me that I do know a lot more than I think I know." Like many other student-participants, Steudle gained confidence.

Students also experienced personal growth in several other areas, including independence and communication. Zielesch shared this sentiment: "This experience made me grow as a person and become more independent. I'm proud of myself for making it through this trip—being so far from home in an unfamiliar place, doing something I've never done before... It's sharpened my communication skills." And Kohler added, "I've really improved my listening skills. This trip has made me a better person... I'll be back next summer and I'm so excited." Similarly, the experience has affected Craft's plans in researching sustainable engineering materials: "It has inspired me to research, so structures [in Bolivia] last longer."

"Take this class," said Gamble. "Here's the world, the opportunity laid out before you. It's your responsibility to use the life you've got and to know this planet upon which you walk. Take the chance. And always let your mind remain open."

For more information or to join ISD, visit www.cee.mtu.edu/projects

next tbt meeting

Thursday

November 30

5pm

Walker 139

Pizza • Pop • Good company •

All are welcome!

The Women's Soccer Club at Michigan Tech Kicks!

Casey J Rudkin, *The SportsChica*

Soccer is a fast paced, action-oriented sport that is gaining popularity in the United States, although not at the fanatical levels seen internationally. For those who crave their live soccer fix, great games can be found here at Michigan Tech.

The Women's Soccer Club of Michigan Tech, in conjunction with Men's Soccer Club of MTU, will be co-hosting the Fall Indoor Soccer Tournament as well as another in the Spring. Although registration is closed for the Fall Tournament, you can still watch the action at the SDC Multi-Purpose Room in November. **Check <http://director.hu.mtu.edu/mtusoccr/> for details.**

Kristen Semlow, past President and still active member of the Women's Club, said that the club has co-hosted the indoor tournaments with the Men's Club for some time now, and the arrangement fits everyone involved.

"I think the most unique thing about our club is that we work very closely and cooperatively with our male counterparts. In most clubs, you don't see that happen," she said. "When the Men's and Women's Club Soccer teams go to register or even schedule games, we try to do it cooperatively."

Even though it is mid-season, Semlow wants people to know that the Women's Soccer Club continues actively recruiting throughout the year. She said it is helpful if you have a little bit of experience playing soccer, but it is not necessary.

"We get quite a few girls who wanted to play soccer in college, but they chose Michigan Tech," she said. "This is a way for them to continue their collegiate careers."

Although Women's Soccer is not presently a varsity sport, it may become one in the future. Should that happen, Semlow said the Women's Club would continue to exist, allowing women of all skill levels to continue to play organized soccer. She said that while not everyone in the club would go out for varsity soccer, citing time and practice commitments, she, for one, would certainly want to go varsity.

Presently the club organizes and plays in the indoor tournaments, but in the Spring, they will be back outside.

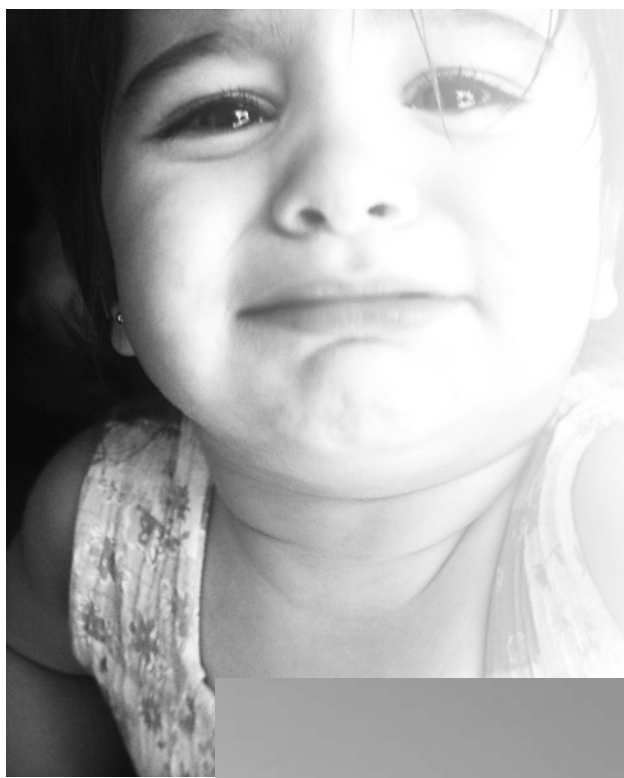
"We do a lot of local games," Semlow said, adding that the Women's Soccer Club plays the Copper Country Soccer Association's women's travel team, the Copper Country Christian School's boys' team, and the women's club team at Northern Michigan University. Previously, the Tech club played the NMU varsity squad, holding their own in competitions. This spring, they will travel to the University of Minnesota-Duluth to compete in a tournament there. It is not too late to sign-up with the team and travel.

"The biggest thing is that people think you can't join in the middle of the season, but we are always looking for new people," Semlow said. "It's always exciting to have new members."

For more information, you can contact recently elected president Rachel Wagner at rdwagner@mtu.edu. You can also show up at the Fall Indoor Tournament and speak with someone from the Women's Soccer Club at Michigan Tech while enjoying some great games and cheering on your favorite team.



photo from <http://www.nebrwesleyan.edu/athletics/soccer/womens/photos.php>



Where's Noonie?

Days in the Life of a Childcare Worker

Lisa Tincknell

Ask any parent; raising a child is no simple task. I'm well aware of this; I worked at a children's center for three years and got a hefty dosage of what parenting is like. Although it was a rather challenging job, I loved it and learned a lot from my experience there. During my time there, and even now, I have come across much debate over the childcare topic; some believe that children should stay home with mom until pre-school rolls around while others believe that day care offers more opportunities. There are also those cases where mom and dad have to work and have no choice but to opt for some sort of childcare plan, be it a center or babysitter. I'll restrain from delving into the controversy and state only my wish for appreciation and understanding for those who work in the childcare field.

Being college students, most of us aren't parents quite yet. The parenthood step is a popular one after graduation, though, so beware. Many of you will likely be starting a career, getting married, buying a home, and having a baby before you know it. After your darling offspring arrives, you'll probably need some help with the upbringing. No matter what your decision is for childcare (day-care center, in-home day care, babysitter, Aunt Patsy), there are a few things you should keep in mind...

First of all, it takes something special to be a childcare worker. Honestly ask yourself if you would quasi-raise X number of someone else's children for eight hours each day. The people who choose this job (a huge majority of whom are women) must endure incredibly long, repetitive, and corny CPR and first-aid training videos and classes. Hiring requires background checks, paperwork, interviews, training seminars (teaching how to make a damn cute fish out of a paper plate), a physical, and a trial-run with children. To be a childcare worker, one should possess a colossal level of patience, which is quite rare.

Now we come to the gargantuan list of things to remember when working with kids. (Note: There is a proven correlation between the number of items to remember and the number of kids being cared for.) I'll start with families in general. These days, you never know how a family is set up. A childcare worker needs to figure out the family structure as quickly as possible; parents, siblings, step-siblings, half-siblings, step-parents, guardians, single-parents, and so on must all be considered and confirmed or ruled out to support the child. (I'll also mention keeping on top of these people for shot records, emergency cards, child physical forms, and permission slips.) Scenario: An adult enters the center, you need to match that face with a child and a name... and a backpack, blanket, pacifier, jacket, hat, project (probably still wet with paint or glue, so please be careful in the car), car seat, home toy, and a Wal-Mart bag with the kid's pee-soaked pants and socks. God forbid that the "I can't find my racecar crisis" occurs at this time.

Next on the list comes the what-issue-goes-with-what-kid quest. This is where things get serious. Some kids absolutely cannot come into contact with certain things: apples, peanut butter, milk, eggs, wheat, or an infinite number of other allergens. This list of item also includes illnesses and medications: Nebulizer treatments and inhalers, eye drops, diabetes test strips, that yummy bubblegum-flavored pink medicine in the refrigerator, the careful measurements, the runny noses, ice packs, the diaper rashes, ointments, walkers and wheelchairs, band aids, thermometers, and all else that is health-related.

Next item, outdoor play. With seasons continually changing, so do the requirements for playing outside with kids. Summer includes sunscreen on every arm, leg, nose, cheek, forehead, neck, and ear. It also includes bug-repellent lotion

on certain (most undesirable) days. Summer outdoor play is great as long as it's not too hot and the children follow the rules: no rocks, no sticks, no throwing sand, no climbing on the fence, and no hiding when it's time to go inside. Let's move on to winter. Winter outdoor play includes jackets, snow pants, boots, gloves, and hats (hopefully all labeled; mixing boots and mittens happens frequently). Winter rules: no snowballs, no icicles as weapons or snacks, no fence-climbing, and no hiding when it's time to go inside. Outdoor play, no matter what season, always coincides with the missing shoe epidemic. You wouldn't think it would be a frequent occurrence, but it happens to many innocent shoes, boots, and sandals each year.

Next, bathroom time. For children in diapers there is usually a rule that they must be changed every two hours. This doesn't sound so bad until you factor in that there are multiple children and most of them hate diaper changes. The struggle begins with keeping the child's hands out of the diaper area and is continued with squirming, rubber gloves, scented wipes, and cleaning the changing area over and over. There are also those cases where the diaper somehow gets filled to the brim or overflows up the back or down the leg. For children who are out of diapers, there are the potty-time reminders, persuasions, and great hopes for accident-free days. When a child is having fun, going to the potty is the last thing on the agenda... He's thinking, My mom and dad packed extra clothes anyway, so what's the big deal? It never fails, witnessing that wide-legged, extra slow stroll across the playground with obvious wetness in back. Never believe children when they say they don't have to go potty.

Now, to pile on a random assortment of other things to know and be aware of when working with kids: the constant watch for untied shoes, who shouldn't sit by whom for meals and activities, who knows how to use scissors at project time (other than for a good hair trimming), who absolutely cannot manage to sit through a game of Hot Potato, who gets a booster seat on the field trip bus, which children bring blankies (and what they name their blanket: Silky, Noonie, or Kee-kee to name a few), which toy goes with which child, which system of getting a child to nap works best, which children fancy food-throwing or cursing, which kids have a hard time pronouncing letter sounds, which kids own the short tempers, and which kids will do anything for a bandaid.

Along with all of these tedious things comes the amazing and rewarding part of the job: the portions of the day when a childcare worker gets to sit down and talk with the kids, teach them things, read stories, and sing songs. There are the milestones: first words, first steps, first full day with no accidents, and eating all the food on the plate. Children are curious, energetic, open-minded, and amusing. Each and every single one of them is creative, hilarious, and brilliant in their own way.

As you read this, parenthood may be the furthest thing from the your reality, perhaps after tomorrow's mid-term, next week's lab report, next year's graduation, traveling around Europe for a year, grad school, getting married. The truth is most of you will be parents and most of you will rely on childcare workers to help you raise your children. I ask only that you appreciate those who work with children and all that they do for families. Like I said earlier, raising a child is no easy task. Investing time in children the way good childcare workers do every day is vital and should be praised. For those of us who want it all, career and family, it is a quality system of childcare that will make it possible.



The Physiology of Joy

Kathleen Flenniken

In the bleakest centers of the body, researchers have discovered tiny pockets of joy, like the undersized bubbles that cling to the corners of parched mouths.

We're trying to understand, the spokesman said. He was staring into the camera. They might be an immune system response to pain or evidence that joy in order to be released must coalesce to a critical mass. Then he leaned into our living room to confide

that in his college anatomy class, sometimes the bodies would sigh at the end of a long dissection, an unaccountable flutter under his hands. Once he was last one out of that blue gymnasium of a laboratory. I don't know if it's proof, he said,

but when I switched off the lights the transom windows glowed.

<http://www.poems.com/physifile.htm>

WHAT IS tbt POLICY ?

The TechnoBabe Times is dedicated to the empowerment of women in all aspects of technology. We want **tbt** to be a place where voices not usually heard or seen on campus or in the community can be seen & heard. We want to be a publication that encourages new and different voices. And so: we solicit thoughtful, reflective, critical writings (or drawings or mixed media pieces or poems or...) that offer us all positive views and smart actions...

If you have any ideas, questions or comments—or wish to advertise in **tbt**—please contact our staff at **tbt@mtu.edu**. You may also write the list to submit a piece of work or to become part of the **tbt** staff (all girls and boys interested in the cause are welcome!).

THANK YOU to the CCLI for help on this issue.

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RESOURCES

Barbara Kettle Gundlach Shelter 337-5623 <i>Domestic violence shelter; 24-hour crisis line</i>	MTU Educational Opportunity Office 487-3539 http://www.edopp.mtu.edu/ : great programs, great people!
Career Counseling 487-2313	Office of Student Affairs..... 487-2212; 487-2465
Counseling Services..... 487-2538	Office of Residence Life..... 487-3404
Dial HELP..... 482-4357 <i>Crisis intervention: a gentle, helpful voice, 24 hours a day, 7 days a week</i>	On-campus emergencies 123
Employee Assistance Program 482-2299	Planned Parenthood 1219 N 3rd St, Marquette, MI (906) 225-5070
Houghton Community Health Center 483-1860	Society of Intellectual Sisters (SIS). http://www.sos.mtu.edu/sis/ <i>Promoting sisterhood primarily among African-American women and scholarship among members</i>
Keweenaw Pride pride@mtu.edu <i>An MTU group for Gay, Lesbian, Bisexual, Transgendered or Questioning Students, Staff, Faculty, Community Members, Friends, and Allies</i>	Society of Women Engineers http://www.sos.mtu.edu/swe/
Legal Services of Northern Michigan..... 482-3908	Western UP District Health Department..... 482-7382 <i>AIDS testing, family planning, immunization, pregnancy testing</i>