INNER CITY INNER STRENGTH
Empowering kids through music mentorship
Welcome to another issue of *TeachingLIFE* and another celebration of innovation and excellence in teaching here at the University of Manitoba.

As we look across the field of higher education, there is undoubtedly a renewed focus on teaching and learning within universities. Discussions range from setting appropriate learning outcomes in programs, to the benefits of experiential learning options, to the development of blended learning courses, and more. At the University of Manitoba we are proud to have recently introduced a new fund to support innovative teaching and learning enhancement projects and we will be launching a new faculty teaching certificate program in the summer of 2014. These new initiatives underscore that at the University of Manitoba teaching matters!

I invite you to explore the pages of this issue where we examine the evolving classroom. What will classrooms look like in the next 10 years? The next 20 years? Beyond the physical walls of the academy where else does learning take place? Where should it take place? And how is technology changing our approach to teaching?

This issue of *TeachingLIFE* responds to these questions and showcases a wide range of learning environments across a number of disciplines. You will see the way students are learning and connecting with the community through the CanU jazz program in the Desautels Faculty of Music and through the Legal Help Centre in the Faculty of Law. Other students are learning through exciting research ventures overseas including archeological field work in Israel. What stands out is that creative, effective teaching and learning is happening in many different places and types of spaces. In the 21st century the classroom is not going away but we are increasing the options available to students for outside learning, for hands-on experiences and for new pedagogical formats. I am very proud of the accomplishments of my colleagues at the University of Manitoba and pleased to share this view inside the world of teaching and learning with you.
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On the cover: Desautels Faculty of Music student Brooke Van Ryssel with CanU participant Jansen Leigh

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Faculty of Education dean David Mandzuk ponders post-secondary schooling in the 21st century
UNIVERSITIES AROUND THE WORLD are undergoing massive changes and facing incredible challenges. As the costs of infrastructure skyrocket and students increasingly demand ‘customized’ learning experiences, the question has to be asked: Is the bricks and mortar university becoming a thing of the past?

In their online piece Of dinosaurs, brick and mortar higher education and other big dying things, professors Valerie Irvine and Jillian Code, who head the University of Victoria’s Technology Integration and Evaluation Lab, make the case that universities as we know them will likely be around for a long time to come but there is no doubt that they are experiencing a transformation. What’s changing includes: the increasing demand for online learning or a mix of web and classroom lessons (known as blended learning); what James G. Mazoue, who heads online programs at Wayne State University in Detroit, MI., calls the “wikification of knowledge”; the increasing popularity of travel study and service-learning courses; and of course, massive open online courses (MOOCs) which have really turned traditional teaching and learning on its head.

As pioneers of the first MOOCs, the University of Manitoba helped to pave the way for these free, open-to-the-public online courses. Today, according to Forbes.com, the learning platform Coursera offers MOOCs to more than 1.7 million students worldwide. What we used to think of as non-traditional teaching and learning experiences have exploded in popularity and are becoming mainstream.

Last year, I had a student in my School and Society course who had never stepped foot in a university classroom and had completed her first arts degree entirely online. I remember wondering ‘What would motivate someone to take a whole degree in a virtual space?’ But now I think I better understand the appeal. Students like the flexibility that online and blended learning arrangements provide. They can study when it suits them and they don’t have to endure what they may perceive as incompetent instructors, annoying classmates, and collaborative assignments that have dubious benefits. Online and blended learning also provides them with opportunities to use new technologies and unique programs that they may not be able to use in traditional courses.

And what should we make of the explosion of experiential learning options like travel study and service-learning courses, co-ops and international practicum courses all delivered off campus and often on the other side of the world? With the growing emphasis on ‘the quality of the student experience’, these kinds of courses have become increasingly popular in recent years. What used to be thought of as alternative learning experiences are quickly becoming the norm as they provide students with the chance to learn in workplaces or in local or international community settings, addressing real-life problems—from tackling poverty in inner-city Winnipeg to developing classroom programs for rural teachers in Peru. Students come to appreciate that meaningful learning does not have to happen within the confines of a lab or lecture theatre and that sometimes, the most significant understanding takes place when you have the opportunity to actually apply what you may have learned elsewhere.

But before we get too carried away, let’s stop and think about what may be missing with these options. In spite of what online enthusiasts say about virtual communities, students who tune into their classes from home—perhaps still wearing their pajamas—can easily feel that they lack real human contact. Although some students thrive in an online environment, many more realize that they need the stimulation of face-to-face experiences to find meaning in what they are learning and to remain motivated. I also think that a sense of place is important for effective teaching and learning to occur. There’s something about being in the lab, the studio, the rehearsal hall or lecture theatre that makes a difference. The physical space, the atmosphere as students settle in to a common task, the last-minute preparation of the instructor, and the uncertainty of where the whole experience might lead, are aspects of life in a bricks and mortar university that I think are worth preserving.

I may be old-fashioned but personally speaking, I think that while keeping up with increasing infrastructure costs will continue to be a challenge, there will always be a place for traditional universities. Like Irvine and Code, I don’t think bricks and mortar universities are “leftovers from another era”. Instead, our university, like others across the country, needs to find a balance between the traditions of higher education we have come to know and the innovations that we are just beginning to experience.
The idea that an education can take you places gains new meaning thanks to a growing number of opportunities for today’s students to learn beyond the conventional classroom. They’re venturing deeper into communities in their own backyard and trekking to ones further afield to participate in exchanges, service-learning experiences and internships. From teaching human rights to teenagers in Tanzania (right), to digging up ancient artifacts in Israel, U of M students are learning by doing, and changing the way they see the world—and themselves.
“There’s evidence, polls and research indicating there’s an expectation from students that there be more experiential aspects to their education. I think students are thirsting for these things.”

—Tony Rogge, director of the International Centre for Students
“It was interesting to see a community take charge of their own learning,” says Ahrens-Townsend, who was in her final year in Education at the time of the trip. "Everything is so structured in Canada; it was neat to see a system that was structured around being sustainable and working in a flexible way for many different people.”

Despite child labour being illegal in India, kids as young as seven or eight years old spend most of the day making bricks to earn money for their families. The Barefoot Teachers Training Program—founded by educational innovator and long-time advocate for the poor, Sister M. Cyril Mooney—trains locals from nearby slums, villages and remote rural communities in ways they can impart basic literacy and numbers to children who would otherwise go without.

There is no money to build classrooms, so children are taught in the open air. With no educational materials aside from those they can make or find, Barefoot teachers use objects like bricks and plastic jugs for counting and other instruction. The philosophy behind the program? The sharing of knowledge requires only practical teaching tools (your feet) and not heavy theory (shoes). To date, more than 7,000 ‘teachers’ have brought education to 350,000-plus village children. These lessons can unfold anywhere, from under bridges to on top of roofs.

“We got to learn about using the environment in an impoverished community and creating a situation that’s sustainable in an area that has no money,” says Ahrens-Townsend.
The documentary was the brainchild of Jerome Cranston, an associate dean in the Faculty of Education who is interested in systemic injustices inherent in education systems. He met Mooney when she was in town in 2012 to receive an honorary doctoral degree from the University of Manitoba.

“We had a cup of tea, then another cup of tea,” recalls Cranston. “By the end of three cups of tea, Sister Cyril had convinced me to go to India to get to know something very few North Americans know about—non-formal teacher preparation in the developing world.”

Cranston and Ahrens-Townsend spent seven days in India in January and February 2013. The results were three, roughly five-minute episodes posted on YouTube last fall that garnered local news coverage. “For most of us, our notions of school and teaching are confined to our memories developed from a very comfortable Developed World experience of attending school,” says Cranston, who is headed to Rwanda next month to study the impact the Rwandan Genocide had on the country’s teachers. “As the world becomes more globalized, I believe it’s important for all of us to understand that what we think schools are—as a concept and in reality—is not universal and that globally, millions of children experience school quite differently than we ever imagine.”

Cranston says university educators have an obligation to expose students not only to a world of thought and ideas, but also to one of sounds, smells, sights and people that are different from the one they experience on campus.

This project is just one of many examples of U of M faculty and students taking an educational experience abroad and into the field.

Tony Rogge, the director of the International Centre for Students, says these opportunities are important because they contribute to a student’s scholastic and personal development. “There’s a whole range of different things they might be able to do after that they couldn’t have done before,” says Rogge. “First and foremost, we want students to have an enhanced sense of how their discipline relates to the rest of the world. The other set of outcomes we’re looking for is behavioural outcomes; that could be as simple as a student becoming more self-confident and self-actualized. The whole idea of them travelling to a different country, studying somewhere—they become more persistent at solving problems.”

This year, a record 98 U of M students left Canada to participate in exchanges, service-learning and internship activities organized by units in Student Affairs. But that’s only a small fraction of the total education abroad activities that happen. The university’s faculties, extended education programs and individual professors also organize their own study abroad opportunities. “There’s evidence, polls and research indicating there’s an expectation from students that there be more experiential aspects to their education,” says Rogge. “I think students are thirsting for these things.”

Rogge says U of M students who gravitate towards these opportunities often participate in two to three different programs during their time at the university.

“Once you start doing it, it’s like the first pickle out of a jar.”

In recent years, a slew of organizations and companies have begun offering ‘voluntourism’ opportunities for students, from helping protect sea turtles in Costa Rica to working with impoverished communities in South Africa. Some critics, however, call the opportunities ‘guilt trips’ and have questioned their usefulness.

In one 2010 report conducted by South Africa’s Human Sciences Research Council, researchers looked at the phenomenon of western tourists volunteering to help AIDS orphans at facilities, mostly in sub-Saharan Africa. Researchers found that the short-term volunteer projects could cause more problems than solve. Some local institutions on tight budgets, for instance, set aside both time and money to host and care for visiting volunteers. The researchers also argued that the children being cared for were likely to suffer when the bonds they formed with successive volunteers were broken when it was time for the latter to leave.

Rogge says the university avoids similar pitfalls by working closely with only trusted organizations in individual countries who determine that population’s most pressing needs. Students participating in Student Affairs-organized exchanges must also complete an online course aimed at encouraging reflection on their experience.

“You can go anywhere in the world and choose any company or do it independently,” says Rogge. “What we’re going to do at the U of M is we’re going to put together a program that meets a given need that’s locally predetermined. We’re going to find partners who can guarantee your safety, who care about who you are and what you want, who understand you’re a student first and who will help you think about your whole project so you’re not going to just think you’re going to save the world.”

One such program is the university’s Badili Mtizamo project, a five-week service-learning experience in Tanzania. The name is Kiswahili for ‘change the way you see things.’ Every year, four U of M students work with local Tanzanian schools and the local Tanzanian staff of Canadian Physicians for Aid and Relief Tanzania to provide high school boys and girls with after-school educational programming on health and human rights.

This is the fifth year the U of M is offering Badili Mtizamo; 20 students have passed through the program to date. The four students the university selects to participate come from diverse fields of study, including nursing, education, politics and human ecology.

Students who participate in programs like Badili Mtizamo—U of M organized activities that support self-development but do not involve academic credits—can then include this information on a document called a co-curricular record. Similar to academic transcripts, these
records are a popular method of Canadian universities to document student’s involvement in volunteer projects.

Many of these study abroad projects can be critical components in building a student’s career.

Jeremy Beller first headed to the Middle East in 2011 to assist in the Tell es-Safi/Gath archeological dig organized by Haskel Greenfield, a professor of anthropology and archaeology and the coordinator for Judaic Studies, and Aren Maeir of Bar Ilan University in Israel.

At the time, Beller was an inexperienced but enthusiastic second-year student, just starting out in his archaeology studies. He has since returned on two other occasions, and has done everything from digging in the dusty trenches with a pick and trowel to cataloguing some of the 50,000 objects—from animal bones and plant remains to pottery shards and culinary utensils—they’ve discovered at the site.

Located in central Israel, Tell es-Safi is believed to be where the biblical city of Gath was situated. According to biblical texts, Gath was one of the five Philistine city states and was home to Goliath the warrior.

“During my times there, I not only made a lot of friends but I also made professional connections because of the universities there,” says Beller. “One of most important connections was with Haskel.”

With a $2.7 million Partnerships Grant from the Social Sciences and Humanities Research Council, Greenfield is investigating the nature of Early Bronze Age urban neighbourhoods that date back to between 4,500 to 5,000 years. More specifically, he’s interested in working-class neighbourhoods, which have traditionally been overlooked in archeological digs despite making up the vast majority of remains.

“Within the Early Bronze Age Southern Levant, or ancient Israel, there’s very little information on these blue collar people,” says Beller, who plans to return to Tel es-Safi this July. “We don’t have a good understanding of how they lived, their daily activities and who they interacted with. That’s what we’re trying to discover, to fill that gap of knowledge that will basically tie in all the levels of social stratification in that region.”

The team has made some interesting discoveries, including a fully intact skeleton of a donkey that was discovered underneath a home. It’s one of the earliest intact domesticated donkey skeletons in the world, and the only one sacrificed as part of rituals to renew a neighbourhood as it was being rebuilt.

“They would do it as sacrifice to the gods to bless the neighbourhood so that the people would be safe and fruitful and multiply,” says Greenfield.
The discovery has lead Greenfield and his colleagues to question whether the neighbourhood may have been home to merchants, for whom the beast was a totem—an animal representing the clan or lineage of the people living there, which could also be tied to their occupation.

“I love sharing the joy and excitement that I get from field work with my students,” says Greenfield. “I love to have them with me and to see the changes that go over them when they immerse themselves in the experience. I am training the next generation of archaeologists, historians and lovers of the ancient world.”

Of course, all of these study-abroad undertakings cost money.

U of M bursaries and other forms of financial support are frequently available to students, but some level of expense to participate is inevitable. Volunteering for the university’s Badilli Mitazamo project costs students up to $6,000. For Beller, he had to pay his way in 2011 to participate as an undergraduate in the Tell es-Safi archeology project. A year later, he received $3,300 in scholarships to study abroad, and he now receives funding as a graduate student. Ahrens-Townsend’s $2,000 air fare to India and $1,400 fee to edit the Barefoot Teachers Training Program documentaries was covered by the Centre for Human Rights Research, although she did purchase two Panasonic Lumix cameras for the project with her own money.

The administration at the U of M acknowledges the growing importance of these education abroad projects, and that many students face a daunting challenge paying for airfare, accommodations or simply out-of-pocket expenses in order to participate. That’s why the university’s fundraising appeals include a specific request for donations for student awards to help scholars undertake internships, co-op and exchange programs as well as service-learning journeys at home and abroad.

“It would be disingenuous for me to say anyone can do it,” says Rogge. “What we’d like to move to is a place where we can say that if an amazing student walks in through the door and says ‘I need to be part of this program,’ we’ll find a way to get them there.”
SARAH FROESE

As part of the Service Learning Program in Ecuador our group facilitated an afternoon program for children and youth at San Patricio school. This sweet girl, Anita, proudly showed off the colourful butterfly—or mariposa—she made in my class. Her earnest enthusiasm was striking. Hers was always the first hand up to ask me something about winter, about my school, about Canada, or if I could sing my national anthem for them. She listened patiently to my basic Spanish and helped her peers understand as well. Her eagerness, and that of the other students, to soak up all the new information they were learning about my culture was only outmatched by their excitement in sharing their own culture with me.

CASSANDRA KIERNICKI

While studying abroad, I got the opportunity to explore a village like no other. By an old wooden canoe, a young boy named Robie gave me a tour and opened my eyes. Robie is a sea gypsy who lives in a hut within the shallow coastal waters of Indonesia. His dad is a fisherman; when Robie grows up he will become a fisherman as well. The livelihood of this community depends on fish; it is their only natural resource. At the time I was unable to speak his language but he continuously looked back at me smiling. I realized there was no need for talking. I may not speak Indonesian but smiles and laughter are universal, and the two of us certainly got that language down. Here’s to the smiles, laughter and the journey we got to share together. He will always have a place in my heart.

SARAH CARSON

When we travel, especially to places where culture and customs are so different from our own, we take photographs and are encouraged to collect memories through the images we create. While completing my master’s research in India, I was invited to this village gathering. Pictured here is a young woman dancing with family and friends—and taken just before I was finally pulled in to join the dancing … This photo captures an important reminder and moment of self-reflection: the most memorable moments come when we put down the camera and become fully present. While everyone can appreciate a beautiful photograph, collecting memories from that safe place behind the lens will only take you so far.
While volunteering with a medical team in the Ba District on the Viti Levu island of Fiji I was challenged to appreciate the little things. I had never been to a more generous and hospitable country. On our free Saturday, the village children wanted to share with us their hidden paradise. After a two-hour hike up and down grass hills—through many trees, shrubs and bush—we came upon this waterfall. The excitement of the kids to share this with us was something I will never forget.

These are Masai Warriors in the Masai Mara Village. [This] picture of the two warriors is my favourite and holds one of the best stories of my life.

Bangkok is one of the cities that have the worst traffic jams in the world. It is possible to spend two hours moving less than a kilometre. This has been [a] serious problem that Bangkok citizens … face every day. Apart from inefficient city plans or too many cars on the road, one of the root causes of the problem is people’s bad driving habits. This picture is a good example. You will see motorcycles and scooters everywhere, cars in the bus lane, and buses cutting off three lanes to pick up passengers.
Bob Dylan’s famous lyrics make it clear the clock stops for no one, and if you want to keep up:

Then you better start swimmin’
Or you’ll sink like a stone
For the times they are a-changin’

The classroom is no exception. It’s changing in part because the idea of a one-size-fits-all education has been tossed in the dustbin, along with those old reel-to-reel film projectors. Today, technology has infiltrated every corner of the rooms where we teach, delivering formats and lessons better tailored to the needs of a diverse population of students.

“That’s the classroom of the future: it’s anywhere and everywhere,” says Winnipeg architect George Cibinel. “It’s electronic, through the Internet, sitting at Starbucks.”

Cibinel is the president of Winnipeg-based Cibinel Architects and has been designing university buildings since 1990. He’s also on the winning team for the U of M’s Visionary (re)Generation design competition, which is tasked with redeveloping the Fort Garry campus, including the former Southwood Golf Course.

Cibinel says there’s still a definite need for traditional classroom space that is acoustically separated, plugged in and flexible. But he also believes that the classroom of the future is not necessarily just an interior space; it’s a welcoming space like a well-designed town, where students, teachers, administrators and the community want to be. “They want to stay; they meet and they greet,” says Cibinel. “There’s a casual interchange.”

That same vitality exists in the places where students often choose to study, he says. “Students want to be in touch with what’s going on around them. They sometimes go to the noisiest places, like Starbucks,” says Cibinel, who at the time of this interview was himself headed to Osborne Village’s Cornerstone Café for a business meeting. “Plus, they have headphones on, banging all kinds of loud music into their heads.”

Despite these distractions, the students are completely focused, he adds. It’s a very different image from the one created by the monolithic buildings erected as schools in the past. “I think in the past—the 1970s
and 1980s—and especially in elementary schools in some districts, there was this desire to design these boxes with minimal fenestration so that students weren’t disrupted or distracted by something going on outside the classrooms,” says Cibinel. “We made the situation worse and worse, we made the windows smaller and smaller. So now, if there’s anything going on outside the window, man, you’re starving to see what’s going on.”

Cibinel believes the ideal building for housing the classrooms of the future is similar in type to a warehouse. That may sound ironic, but Cibinel says what’s important is that this space is flexible, with large structural spans; cast concrete and other durable materials can be used and easily modified to accommodate changes in classroom set ups. And unlike traditional warehouses, these buildings should have as much natural light and contact with the outdoors as possible, and not just to save on lighting costs. "You’re putting people closer in touch with the natural rhythms of the day,” says Cibinel. "Visual connectivity is critical so that when someone is in a teaching environment, they see what’s going on around them and it feels good to be there.”

Perhaps unsurprisingly, planning for flexibility is key to building a teaching space that works. Planning and construction of such buildings can take anywhere from three to six years to complete; meanwhile, teaching programs and technology are continually evolving. It’s important the buildings not be obsolete by the time they finally open. “You’ll spend a fortune putting in wiring, only to find out the next day you’re going wireless,” says Cibinel. “That’s what’s happened over the last 15 years.”

Another innovation, blended learning, has also morphed the classroom in its own way. Back in 2008, psychology professors Jason Leboe-McGowan and Tammy Invanco launched the U of M’s first such course, providing a good way to meet the growing demand among students for Introduction to Psychology. Six years later, enrolment in the course has gone up, as has the number of psychology majors. In fact, most students complete the course in the blended learning format. Once a week, graduate school instructors provide demonstrations and discussions in a classroom setting. Otherwise, students can watch the lectures whenever or wherever they’d like.

“I think you’re going to see a lot more of (blended learning), particularly in quite large first-year classes and some second-year classes. They’ll start popping up at increasing rates,” says Leboe-McGowan. “They’ve done studies … [and] the consensus is achievement in these courses is about as good, if not better, than the regular way of offering university courses.”

In the largest of classes, where interaction between the student and instructor is minimal, these interactive online lessons can enhance the learning experience, he notes. But for smaller classes, where material is more specialized and discussion strongly encouraged, the format could do the opposite. “There’s nothing that can match sitting in a room, hearing the only expert in all of Canada, or in all of Western Canada, and they can stand there and talk about what they know best, live, in a context … [that’s] not so big that students are discouraged from asking questions. I don’t think there’s any way of replacing that part of a university experience,” says Leboe McGowan.

The U of M’s Centre for the Advancement of Teaching and Learning wants to dig further into the research of what makes a teaching environment work.

“We always hear about the exciting research things happening at the university,” says Centre director Mark Torchia. “We don’t often hear about the exciting teaching things that happen. I want teaching and learning to be recognized at the same level as research is in its celebration, funding, resourcing, all of those things.”

Working in collaboration with the Provost’s Office, the Centre is proposing an experimental classroom where instructors can investigate different teaching methods, classroom layouts, furniture and educational information technology software and hardware. These test grounds will be configurable—for instance, individual desks may have wheels so they can easily be moved together to form a hexagon for group work. By giving instructors the freedom and tools to try different set-ups, Torchia hopes they’ll raise interesting questions and discover more effective teaching methods.

“In the vast majority of our classrooms, probably almost all of them, the instructor, the audio-visual controls and the whiteboard are all positioned for the instructor to be at the front of the room,” explains Torchia. “Why does it have to be at the front of the room? Are you better off in middle of the room with everybody around
you? If you are, then how do you get access to the audio-visual things? It’s sort of that idea about deconstructing a traditional lecture theatre into a learning-teaching space that’s more amenable to student success.”

The first phase of the project is scheduled for this year and involves using an existing classroom for pilot studies and qualitative research. Torchia hopes to use the knowledge gained from that work to then build an actual experimental space, involving one or possibly more rooms. Before the latter can happen, however, the Centre must secure substantial funding from the university, donors or grants.

As for who will be conducting the research, Torchia says any instructor wishing to use the space to explore alternative teaching set-ups within a research context is welcome.

But with so much focus on the physical classroom, it can be easy to lose oneself in discussions about layout and technology. Melanie Janzen, the director of the School Experiences Office and a Faculty of Education professor, stripped all of this away when she developed a course involving a very different type of modern teaching environment—one that involves no traditional classroom whatsoever.

Her creation, Beyond Classrooms, gives students working towards a bachelor of education the chance to work with children and youth in non-school settings. As part of the eight-week program, the university pairs up students who have completed one year of course work and practicum with organizations like FortWhyte Alive, the Boys and Girls Club of Winnipeg and Rossbrook House.

“I think our teacher candidates, generally speaking, come to our faculty with a pretty traditional idea that teaching is an act of transmission and that the teacher stands at the front of the room and conveys curriculum to children,” says Janzen. “This course is trying to disrupt that. We’re taking teacher candidates outside of the classrooms and having them work in spaces that are less familiar to them.”

During their time volunteering at the organizations, the student teachers design and complete a project that draws on the students’ developing expertise as educators and that can be of use to the organization, such as developing resource materials or mentoring handbooks.

Janzen says the experience helps give student teachers a better understanding of the diverse backgrounds and environments of the young people they may one day teach. They also get a broader sense of education because the organizations prioritize educational agendas that are reflective of their larger goals—like, for instance, making art for the sake of engaging in the creative process at Winnipeg’s non-profit community arts centre Art City.

“When these things become the centre of what the organization is about, it helps to shift our students’ perspective on what’s most important,” says Janzen. “Teaching curriculum becomes maybe not as important as teaching kids. Therefore, we need to understand who these kids are, how to be in relationship with them and how to find ways to engage them educationally that makes sense to them.”

“You’re putting people closer in touch with the natural rhythms of the day.”

The Visionary (re)Generation Open International Design Competition invited some of the world’s top urban thinkers to reimagine the Fort Garry campus.
LEARNING HOW TO KEEP IT SIMPLE

MED STUDENT EMMA AMBROSE knows the extracellular matrix inside out. Fast becoming an expert in her field, Ambrose also knows that in order to move her findings from the university lab to the real world she needs to be able to effectively explain her research to the everyday person (someone whose knowledge of a ‘matrix’ might be limited to the movie trilogy featuring Keanu Reeves). The physiology master’s student was among the finalists this February at the U of M’s second annual Three Minute Thesis (3MT®) competition. The judged contest challenges students to explain their thesis—in a scant 180 seconds—to a layperson audience. The University of Queensland came up with the idea six years ago and the 3MT® movement has since spread across the globe. Ambrose, who studies at the U of M and St. Boniface Hospital Research, made real her research efforts to find a better option for babies born with malfunctioning hearts. Here’s her thesis, in her own words:

A newborn child is rushed to the ICU. Her heart isn’t pumping enough blood because she was born with a damaged heart valve. If left untreated her condition is fatal. The only way to save her life is to replace her valve with an artificial prosthesis—a procedure requiring open heart surgery. Sadly, for children living with artificial valves this is only the first of many challenges they will face. You see, as these children grow their heart will grow with them. So the artificial valve that was once the right size will now be too small to work properly. As a result these children will have to endure numerous repeat surgeries to replace the implant they have outgrown.

Yet another challenge comes from the valve implant itself. Mechanical valves are the best option for children because they are extremely durable. However, these implants put patients at high risk for developing blood clots which can cause a heart attack or stroke—so these individuals must be on a lifetime of medication. These drugs have debilitating side effects, and children taking them will not have a normal childhood.

Bioprosthetic valves are another option. These are pig valves that have been chemically treated so that the person’s immune system will not reject the foreign animal tissue. While bioprosthetic valves do not require medication, they quickly deteriorate in the body and must be replaced every 10 years. So once these kids grow up they have to choose between taking drugs with devastating consequences, or a lifetime of repeat surgeries. Their options simply are not good enough—but with my research I hope to change that. I am working towards bioengineering a living heart valve implant that would allow these people to live a better life.

[Imagine a heart] but all of the cells have been removed, leaving only the extracellular matrix. The extracellular matrix acts as the glue that holds your cells in place and it forms a skeleton-like structure of your tissues. We can use this to our advantage when engineering a heart valve prosthesis. First, we take a pig valve and remove all the cells, providing us with the frame we need to rebuild our implant. Next we take a small skin biopsy from a patient, and through a series of steps we can grow the patient’s skin cells around the valve matrix, creating our living tissue prosthesis.

So people needing valve replacements could have a brand new valve made from their very own tissue. As the implant is made with only the patient’s cells there is no concern for transplant rejection. And once it is implanted the valve would be able to grow with the patient, completely abolishing the need for repeat surgeries in children. This would mean that we could give kids back the childhood that they deserve. And people living with artificial valves would no longer have to live a life with restrictions. No more repeat surgeries. No more medication. Just a brighter future.

Go to umanitoba.ca/3MT to watch presentations by our 2014 3MT® winners: first place—Andrea Edel (Flaxseed: A modern prescription for high blood pressure and cholesterol); second place—Olivia Sylvester (Protecting rainforest biodiversity at odds with rights to food for Indigenous people); and people’s choice—Havva Filiz Koksel (The perfect loaf of bread: Insights from X-rays, sound waves and bubble dynamics).
THE 
WORD

Where does rural education fit in a world pushing all things global and urban?

BY KATIE CHALMERS-BROOKS
IT DOESN’T TAKE LONG for Winnipegger Dawn Wallin to feel at home when she goes back to Margo, Sask. “Within 15 minutes someone will be on my doorstep for coffee,” Wallin says. The Education professor owns a 700-square-foot house in the farming community where she grew up. She prides herself on being an authentic rural kid, given she was raised just outside of the town’s limits, unlike the ‘town kids’ of then-bustling Margo, population 200.

It was here that Wallin went to school from kindergarten to Grade 12, and here that she would become one of the town’s last graduating classes. “We were devastated when we lost the school,” she says.

Wallin cherishes her memories of living in the country: driving a combine on her family’s wheat fields years before she could legally drive a car, learning about the cycle of life by watching the animals and the harvest, making lifelong friends with all five of the kids in her grade.

She loved the camaraderie of rural living. Everyone was on the softball team—they had to or else they wouldn’t have enough players. Even the small town gossip didn’t bother her, recognizing that it was a side effect of caring about your neighbour. “Growing up, it was fabulous,” she says. “You were part of something bigger than yourself.”

In the 1980s small farming began to move out as corporate farming moved in, forcing families to relocate to larger centres. In 1996, the school closed for good. The building now serves as a warehouse for a grain-bin maker. Its gymnasium, long since moved down the road, has been repurposed as a burger joint called Missy’s.

Wallin’s mission today is to save other rural schools from extinction. “I don’t want to romanticize rural communities, but because my experience was so good I want to find ways through educational research to support people who wish to have a rural lifestyle,” she says. “It won’t look the same as what it once was—it has to be different. But I want to be the one who helps support them and helps them find ways to sustain rural education.”

Wallin’s research sheds light on how urbanization and globalization have inched their way into rural communities and undoubtedly made it harder for their schools to survive. Her findings confirm: rural teachers have a tougher time accessing professional development opportunities, which are typically offered in larger cities; and, given that rural schools usually have fewer students than in larger centres, they struggle with less funding (since it’s per capita-based) which can mean either fewer programs or less qualified staff.

These teachers face expectations that they jump into their job fully, becoming a member of the community beyond class time and not simply teaching and going home. Yet they’re typically paid less than their urban counterparts. “The workload is unbelievable and the commitment is unreal,” Wallin says.

Rural schools must also tailor themselves to support students with increasingly different learning needs, ethnic and language diversity, and socio-economic challenges. The demands of a mostly new-immigrant community aren’t the same as say, children living in an isolated northern town. “We have the tendency to paint all of the communities as the same, but they are not,” Wallin says.

With so many obstacles, how can rural schools be strengthened and ultimately saved?

Wallin insists that technology—which has in many ways threatened the livelihoods of rural communities because of its role in ‘big farming’, increasing farm sizes and consequently decreasing school enrolments—could now, in part, help them achieve sustainability.

Take the flipped classroom model for example: students follow online lessons at home during the evening and then bring their homework in to complete in class. This way, students of different grades can learn lessons specific to their level on their own, freeing up more time for one-on-one instruction from the multi-tasking teacher.

Given that rural schools don’t have an abundance of specialized positions and their teachers are responsible for multiple subjects and grades, more are using video broadcasts to share a specific expertise with students at other rural schools. Wallin predicts there’ll be even greater sharing of resources and collaboration across school divisions in the years to come. “Rural teachers tend to be innovative out of necessity,” she says.

Across the country, one fifth of Canadians live in rural regions, with an even greater percentage in Manitoba. “There’s absolutely a commitment to rural living and lifestyles out there,” Wallin says.

About 40 people live in Margo today. Four years ago, Wallin bought her great grandmother’s house in town for a mere $2,500. A growing number of Americans have invested in inexpensive properties here, coming to stay only long enough to hunt geese. More recently, locals have been getting calls from realtors representing global interests from even further afield—China.

With globalization literally on the doorstep, Wallin says she’s starting to see a movement back to the rural way of life. “There has been a bit of a pendulum swing of people bailing on cities and looking for more of a rural lifestyle … You have to live it to understand it,” she says. “I go back and I have a piece of home. I try to go as much as I can.”

Top: Dawn Wallin with her younger sister
Bottom: The Margo, Sask. school that closed in 1996
I’M WITH THE BAND

Jazz outreach program strikes a chord for inner-city kids and their student mentors

BY KATIE CHALMERS-BROOKS
**TWELVE-YEAR-OLD SALINA TOWELDA** admits she’s a little nervous. And rightly so. She’s been drumming for only 14 weeks and now is about to perform in front of more than 500 people at Manitoba’s largest university.

The audience packed inside the U of M space includes other middle-school kids from Winnipeg’s inner city, their families and university student volunteers. It’s the final night of this season’s CanU after-school program and the kids are ready to show their parents what they’ve been up to on campus.

“You sounded good in rehearsal,” offers third-year jazz studies major Gabriela Thomas.

“Yeah, *that’s rehearsal,*” Salina says.

But the fledgling musician is soon on stage keeping the beat for Adele’s *Rolling in the Deep* with the intensity of a pro. It probably didn’t hurt to get an endorsement from world-renowned bassist Steve Kirby, head of the university’s jazz studies program and—tonight—her drum partner.

“Put your hands together for the mighty Salina. Salina on drums!” Kirby hollered from the drum set beside her.

The Jazz Music Academy is CanU’s newest addition. Already, participants get acquainted with post-secondary education by teaming up with University of Manitoba student mentors and taking part in units that improve their literacy, teach them how to cook healthy foods and get them involved in sports.

“It was a great opportunity to work with youth. It was just so much fun,” says Thomas. “It’s kind of like active participation so the kids can hear what the right notes sound like while they’re playing. So, together, we make the sound.”

With all eyes on the band—made up of Grade 5 and 6 kids from two Winnipeg schools, U of M jazz studies students and Kirby—they show a unified front on guitar, keyboard and vocals, together bringing the pop song to life: *Throw your soul through every open door/Count your blessings to find what you look for/Turn my sorrow into treasured gold.*

Kirby knows first-hand how important it is to find that magic something that turns a situation from bad to good: music helped propel him to the top.

He connects kids with professional musicians by simply sitting them down beside each other and seeing what happens. He got the idea from a former band director in East St. Louis. Ron Carter saw music as a bridge to kids in a neighborhood where houses had no windows, just sheets blowing back and forth in the winter chill, and youngsters would linger at the school to avoid walking home through gangs.

“Nobody told them, you’re at level 1 now and it takes two years. They just knew that they wanted to sound as good as the guy next to them so they just worked at it any way they could,” Kirby says. “A lot of the top jazz musicians today are alumni from that school.”

Kirby will tell you “jazz is community” and has gone so far as bringing musicians to low-income Winnipeg neighbourhoods to perform on a flatbed truck. In a Desautels Faculty of Music rehearsal space, the CanU kids spent three hours once a week with U of M jazz students (dubbed their “jazz buddies”), learning by watching and doing, never once encouraged to try reading a note. “When you learn to talk, do you learn to read first? I think music schools all have it wrong,” Kirby says.

The father of two even has them controlling the entire orchestra right off the hop. A simple game of responding to patterns with hand claps and foot stomps teaches them how to compose. “So everything they learn in music they use right away and they’re excited about it.”

That sense of excitement proved contagious as fourth-year jazz student Allie Clark attests. “It brings you back to that initial joy,” says the 21-year-old vocalist, who participated as part of her jazz pedagogy class.

She knew she wanted a career in song after performing *Blue Skies* in high school. “It’s an amazing feeling to be in front of a band, to have that support,” she says. “It sounds great and everyone is having fun and the audience loves it. And I think that’s why these kids are so attached to it. You feel so excited. You feel so special.”

Jordy Jones says his daughter Madison, a student at Sister MacNamara School, came home and grabbed an old acoustic guitar from the closet—an instrument that hadn’t been touched in a couple of decades—and started plucking away. The single dad and truck driver says he’s reluctant to enroll the 10-year-old in activities near their downtown home, characterizing the neighbourhood as “rougher”. Since their introduction to CanU he’s noticed a change in his daughter. “She seems more happy,” Jones says. “She sings a lot more.”

Being part of the band improved Ethan Allard’s focus, says his mom Kari Liu. She believes wholeheartedly that music has a big influence on her son, a Grade 5 student at Ryerson Elementary School. “It really has been able to open him up a lot more,” Liu says.

The healing power of music intrigues fourth-year voice student Brooke Van Ryssel, who plans on pursuing a master’s in music therapy in New York. She wants to one day run a program at a cancer care centre or hospital. Being involved in CanU reinforced that she’s on the right career path. When one of the kids told her the after-school music session is the best part of their week, Van Ryssel knew she wanted to help to make more people feel like that.

She taught the kids about playing instruments and the art of song, and they in turn provided a lesson in inner strength. As a kid who grew up in River Heights, Van Ryssel didn’t have to worry about coming home and not having a meal ready, finding bugs in her house or not being able to see one of her parents when she wanted to.
Ten-year-old Madison with U of M jazz student Gabriela Thomas

Steve Kirby with Salina Towelda
“Some of these kids come from such harsh backgrounds and their life is not as easy as mine is. To see how strong they are and how they still have such a positive outlook, that would be one thing I’ve learned from them,” says Van Ryssel, who came to the final performance despite battling the flu. “If this is going to be the last time I see them, I want to be here.”

In 2011, the University of Manitoba Connecting to Kids report identified 190 inner-city activities offered in partnership with the university. In its fourth year, CanU alone welcomed to the U of M 160 children from 11 schools (most of them from the city’s core neighbourhoods).

Another 12 schools are on the waiting list.

Designed to combat social and educational challenges faced by kids living in poverty, the Winnipeg-funded charity asks schools to select students based on need and academic potential. Nearly half of CanU kids identified themselves as new Canadians, 31 per cent as First Nations and 40 per cent as tenants of public housing.

In the last year, 300 U of M students took part in CanU programs as mentors, instructors and coordinators. Founder and U of M alumnus Roger Berrington told the crowd at their year-end wind-up: “It’s about the next generation of leaders bringing hope and confidence to kids.”

Fellow alumna Charlene Diehl, an administrative coordinator who helps with Kirby’s outreach projects, says it’s tough to let kids go when a program ends—there’s always a desire to do more. But she chooses to focus on what they’ve gained. “They have a part of themselves that they didn’t know even existed,” Diehl says.

Petal Fuller, mom to 11-year-old Jalen Depass, often hears her son singing in his bedroom and now he’s asking for music lessons. “When I called, it was a bit expensive on my side so I said maybe later,” says Fuller, a health-care aide. “I get frustrated for me and I get frustrated for him.”

Jalen is insistent—he wants to be a musician one day.

He says he’s especially excited to be at CanU’s final concert since he missed the last couple of classes because he was sick. He runs up and hugs Kirby, who responds like a 6-foot-5, 300-pound teddy bear.

Moments later the pair share the stage, with Jalen at the microphone singing the chorus of Katy Perry’s hit song *Roar.*

“I got the eye of the tiger, a fighter, dancing through the fire.

‘Cause I am a champion and you’re gonna hear me roar.”

Jalen Depass (far left) sings *Roar* alongside U of M jazz student Allie Clark (far right)
They’ve come to a storefront tucked away in the corner of Portage Place Shopping Centre looking for a bargain, but not on consumer goods. The people lined up at the downtown mall on this Friday afternoon are waiting for free tips on how to navigate a complex legal system.

Run in part by University of Manitoba students, the Legal Help Centre opens its doors twice a week for an afternoon drop-in, offering information on legal problems, from divorce and child custody issues to landlord challenges and criminal matters.

The not-for-profit centre serves a neglected portion of the population who make too much money to be eligible for Legal Aid Manitoba yet too little to readily hire a lawyer. The current cash-strapped state of the Legal Aid system has meant a growing number of people no longer qualify for support, explains the Centre’s legal director and U of M alumna Hope Buset.

“There is this huge gap now. They’re really forced to deal with issues on their own,” Buset says.

Eager to help out is the Centre’s contingent of 20 U of M law students, who work alongside students from the university’s social work and inner city studies programs. Established three years ago, the mostly privately funded facility (which also partners with the University of Winnipeg) takes a holistic approach. The future lawyers answer questions about Manitoba’s legal processes while aspiring social workers provide referrals to other services as needed.

Half of the clients here earn an average annual household income of less than $20,000. A multi-disciplinary approach is key since poverty often goes hand-in-hand with mental health issues, notes Buset. “[The students] are dealing with real clients with real life issues,” she says. “It’s just this incredible place to learn.”

The law students can’t provide legal advice—since they’re not yet lawyers—but they can educate people about their rights and give them information so they can take as many steps as possible without having to hire a pro. Second-year law student Josh Shaw likens the need to a human rights issue.

“We provide a platform that can empower them in a way, which I think is really special,” says Shaw. “It’s very meaningful to see … how that esoteric law that we learn in school actually has relevance to society and specifically, people. It’s a very humanizing process which I think can be really rewarding and transforming for a law student.”

He’s especially interested in the unfair marginalization of individuals because of his own experience growing up different than his male classmates. “I’m a gay man so I’ve been bullied a lot throughout my life and sort of became aware of the social injustice of it,” says the 24-year-old.

Kristin Kennedy, a social work student at the Centre, first knew she wanted to combat prejudice when working with teens in the North End, helping them secure jobs and get away from gang influences. “I saw a lot of untapped potential in the kids that they didn’t see,” says Kennedy.

Working the front lines at the Centre has the 22-year-old helping with housing, counselling, even managing threats of suicide. “Every client is so different,” she says, “and there is not just a Band-Aid solution.”

Kristin Kennedy and Josh Shaw, students at the Legal Help Centre
THE UNIVERSE IS MY CLASSROOM

Richard Hechter invites tomorrow’s science teachers to think outside of the beaker—from real-time viewing of the aurora borealis to case studies of the TV show *The Big Bang Theory*

BY CHRIS RUTKOWSKI
As a high school physics teacher, Richard Hechter spurred his teenage students to become more interested in science by dropping parachutes down stairwells, and organizing field trips to space laboratories—even to the West Edmonton Mall waterslides, where they learned about “physics in action.”

“I was doing things to enrich and encourage growing minds,” Hechter says. “It was challenging and fulfilling all at the same time.”

In 2000, he received the Prime Minister’s Award for Teaching Excellence. Hechter was cited as an innovator and pioneer in encouraging youth to become more interested in science through creative hands-on experiences. However, when he had the opportunity to teach other teachers ideas and techniques for fostering science education in young people, he took a leap of faith forward in his career.

He explains: “I realized that perhaps it was my calling to reach even more students with the message that science is cool—not just a class of students in a collegiate.”

So it was that Hechter began teaching science education at the U of M in 2009. As part of his research, he has been developing exciting and unique ways of showing secondary school teachers how to inspire their charges. “The universe is my classroom,” he boasts. “When I get up in the morning, I can’t wait to get to work so I can teach more people about how to appreciate and educate others about science.”

Among Hechter’s repertoire of trailblazing science activities is his real-time imaging of the aurora borealis in Churchill, Man., the former site of an American rocket range. In the winter of 2012, he traveled there to set up cameras and record the northern lights, then made his imagery available to teachers in the southern part of the province.

“That was sheer lunacy,” he laughs. “I had the base station in Churchill running in the middle of the night, and there were teachers online in Winnipeg waiting for my images. They were caught up in the excitement and were impatiently emailing me to send them my results.”

In 2012, Hechter received a Social Sciences and Humanities Research Council Connection Grant for the ISOTOPE Project (Infusing Scientific Outcomes, Technology Orientations and Pedagogical Experiences), allowing him to pioneer even more creative ways to teach science to secondary school students.

This summer, Hechter will be teaching a course on science learning through popular culture, defining yet another way to reach young people and get them motivated to study science. “There’s an episode of the immensely popular TV series The Big Bang Theory in which Sheldon creates a species of glowing fish as an experiment,” Hechter explains. “Well, that’s actually possible, and I believe that showing students the scene on TV and describing how genetic manipulation can make it actually happen is a way to connect science to a young person’s everyday life.”

Hechter uses YouTube videos and songs by popular recording artists like Hopeless Wanderer by Mumford and Sons, zeroing in on the line ‘Don’t hold a glass over a flame’ to demonstrate what happens when you do. And he uses scenes from Hollywood movies to illustrate scientific principles ranging from time travel to luminescence. He asks his students, “Is time travel, like depicted in a film such as [Woody Allen’s] Midnight in Paris, actually feasible? If so, how? I find that it’s a great opportunity to talk about physics and the nature of time.”

One of Hechter’s inspirations is astrophysicist and science popularizer Neil deGrasse Tyson. In the new version of the popular TV series Cosmos, Tyson waxes philosophically on how humans need to better understand the vastness of the universe, teaching concepts as diverse as evolution and the cosmic distance scale.

With a smile, Hechter sighs and says, “One day, that could be me.” And he adds: “If you don’t dream big, what are you dreaming about?”
Witold Kinsner (Faculty of Engineering) is no stranger to reaching out. In the 30-plus years he’s been with the department of electrical and computer engineering, this recipient of three U of M Outreach Awards has become known for his commitment to innovative teaching in the community. Kinsner’s involvement is vast. It includes programs that connect Indigenous teenagers with U of M scientists, addressing the under-representation of First Nations, Metis and Inuit students at Canadian universities.

“Through their views and actions, my parents, teachers and mentors have taught me the value and beauty of education, knowledge, discovery, and awe for the dignity of all things,” says Kinsner. “They also taught me that the process becomes complete through sharing and kindness. I love sharing it with my family, friends, undergraduate and graduate students, and especially with the pre-university generation of discoverers. Age is never a barrier for insight, as awareness is probably driven by our natural ability to wonder.”

Annemieke Farenhorst (Faculty of Agricultural and Food Sciences) encourages and empowers women to pursue careers in engineering and the sciences. Farenhorst’s workshops and conferences have helped to educate and build support networks for hundreds of females in the field. She also leads the CREATE H20 program, putting First Nations science and engineering students at the forefront of finding solutions to water issues in their communities.

The only female academic in her department, Farenhorst says many of her colleagues at other universities are also the only women in their units. “We all feel it’s important that this changes. Because we all recognize that women can contribute tremendously and sometimes in different ways than our male colleagues,” she says. “I think it would be good for science and the evolution of science if there are more women involved in it.”

Magdalena Blackmore (Faculty of Arts) plays a key role in the Polish Canadian community and champions the university’s Polish program. She is the speaker series coordinator for the Central and East European studies program. As such she works in partnership with the Polish Consulate, the Canadian Museum for Human Rights and the Ogniwo Polish Museum Society to bring world-class speakers to the U of M.

As a history student at the University of Winnipeg, she was encouraged to join a European study group that connected professors and students. They met only a handful of times during the year to learn about multidisciplinary topics. It was a privilege to be part of the group, she says, and it inspired her to pursue a career in teaching.

There are people who go out of their way to forge connections with others to try to bring about positive change. These 11 professors, all of them 2013 University of Manitoba Outreach Award winners, have done just that.

“E-commerce was a dirty word,” says Blackmore. “But it’s now an important part of our economy. It’s amazing how much has changed in the last 10 years.”

“I quickly realized that there were many children who had considerable unmet dental needs and [that] was impacting their health and well-being.”

— Robert Schroth
“I think it would be good for science and the evolution of science if there are more women involved in it.”
— Annemieke Farenhorst

“My parents continue to be very involved in the Black community. This has given me a sense of duty to contribute back, but in my own way.”
— Leisha Strachan

disciplinary research topics related to Europe. But the experience made a lasting impression. “As a student I felt included in the academic exchange and that inspired me,” Blackmore says.

David Churchill (Faculty of Arts) co-founded and co-curated downtown Winnipeg’s Hole in the Wall Gallery, a 16.5-centimetre-tall impromptu art space in a brick wall. The goal? To make art accessible to all. The history professor also co-led an initiative with the university’s Archives and Special Collections to store the oral histories of more than 100 members of the lesbian, gay, bisexual, transgender, two-spirit, queer (LGBTQQ) community. And he coordinates the Little Queer School House, a project designed to share LGBTQQ histories outside of academic settings.

“As a historian I have always been drawn to stories about people who make and transform the communities they live in,” says Churchill. “The arts and LGBT communities here in Winnipeg are two of the city’s most dynamic and vital. It’s a gift, even in a small way, to be part of the creative and critical energy of these communities.”

Esyllt Jones and Adele Perry (Faculty of Arts) co-edited A People’s Citizenship Guide, what these historians call an alternative—and more honest—citizenship guide to the official one Stephen Harper’s Conservative government provides to new immigrants. The pair holds events and panel discussions across the country, encouraging the public to take part in important conversations about Canada’s past and its relationship to public policy and debate.

Jones worked in labour and social justice movements before joining the academic world. “Not only do I still feel a sense of obligation for the opportunities I was given there to learn, but I also share those values of fairness, equality and solidarity,” she says.

An expert in history, Perry recognizes the enormous change and promise happening in the present. She finds hope in movements like Idle No More and the new—and overdue—attention given to murdered and missing Indigenous women. “I want to write and teach history that helps us understand our colonial past and present, and speaks to the social change that is unfolding all around us.”

Janine Montgomery (Faculty of Arts) lends her voice to help children and adults diagnosed with autism spectrum conditions. The psychology professor works with community agencies, non-profit groups and Manitoba schools to increase autism awareness and share ways to improve outcomes. By providing programs and support groups, she helps students with autism build skills in social settings and helps family members better understand the disorder.

“I find (inspiration) in the people with autism spectrum conditions who have such potential when opportunities are provided and structured appropriately. We have so many lessons to learn from people on the spectrum that can benefit all people,” says Montgomery.

Robert Schroth (Faculty of Dentistry) provides dental services for underserved populations. Schroth shows extraordinary commitment to the oral health of Indigenous people, newly landed immigrants and the working poor—from children to seniors. He applies his expertise and experience to all of his outreach efforts, whether serving on a committee or improving the oral health of someone in need in Winnipeg’s downtown neighbourhoods.

As a student, Schroth took part in public health programs to treat the teeth of disadvantaged kids and teenagers. “I quickly realized that there were many children who had considerable unmet dental needs and that untreated disease was impacting their health and well-being,” Schroth says. “These field placements were instrumental in my choosing to work exclusively in dental public health programs when I graduated.”

Kristopher Dick (Faculty of Engineering) established El Pueblo Creciente, a long-term program to provide alternative housing solutions for people living in Honduras. Dick developed a service learning opportunity for U of M students to participate in the design and build of a home in an impoverished area of the Central American country. “I am inspired by their enthusiasm, energy and willingness to sometimes get dirty,” he says.

Leisha Strachan (Faculty of Kinesiology and Recreation Management) shows equal support and enthusiasm for sports and the arts in Manitoba. Strachan coached the provincial baton twirling team when they won the International Cup (Level B) in the Netherlands last year. She also founded and directs ANANSI, School for the Performing Arts. The organization introduces youth to cultural activities that connect and celebrate Caribbean-African culture. She too is a member of Community Vibes, a non-profit organization working to promote diversity, respect and pride among youth and young professionals of various cultural backgrounds.

“My parents continue to be very involved in the Black community. This has given me a sense of duty to contribute back, but in my own way,” says Strachan.

In Memorium • 1952-2014
Kimberley Clare (Faculty of Social Work) will be remembered for her mentorship of inner-city students and non-traditional learners. Clare was a beloved administrator, researcher and community activist in Winnipeg’s core. As director of the inner city social work program for nearly three decades, Clare taught and advised thousands of students. Among her contributions: she developed a specialty program for Aboriginal students interested in a career in child welfare and helped to establish the Makoonsag Intergenerational Children’s Centre—which provides care for kids and makes education possible for their parents.

“The loss for the profession of social work, the Faculty of Social Work at the U of M, the wider university community, and particularly Winnipeg’s Aboriginal and North End communities is immeasurable. Kim was loved and respected by all who knew her,” says Lyn Ferguson, associate dean for social work.

TeachingLIFE 28
‘I CAN STILL SEE THOSE
Wanda Wuttunee opens up about how a life-changing crash and its aftermath—a diagnosis of bipolar disorder—made her a better teacher and mentor

In the moment before her car and another met head on, Wanda Wuttunee accepted that the bomb about to go off was beyond her control. “I closed my eyes and just relaxed because there was nothing we could do,” says Wuttunee, a native studies professor and expert in Aboriginal economic development.

Though two decades removed from the incident, her memory remains vivid. In Edmonton visiting family at the time, Wuttunee and her then husband were unknowingly heading in the wrong direction down a one-way street as they tried to navigate the unfamiliar city. All six people involved in the crash—which sent her car soaring 10 feet—survived, though not unscathed: Wuttunee punctured a lung and the intense trauma of the experience triggered bipolar disorder. It also taught her a valuable lesson about how she responds to adversity.

“When you’re facing something you know is going to happen, do you tense? Or do you just relax and let go.” Because we’re all different in situations of such stress, where you think something really, really bad is going to happen. I can still see those headlights coming.”

Sitting in her office on the third floor of the Drake Centre, Wuttunee describes how she tries to apply this attitude of acceptance and calm to any stress that surfaces in life. With funky glasses and wisps of fuschia hair, she projects a playfulness and sense of comfort in her own skin. She’s candid about her long-time struggle with mental illness, which, since her diagnosis, she has effectively controlled with medication. And the many degrees framed on the wall behind her (bachelors of commerce and law, a master’s in business, and a PhD) attest to her perseverance. “If I can be used as an example of someone who has still accomplished many, many of my life goals after I got the illness, that can give some hope for people who are struggling and maybe not seeing a way,” she says.

As director of the Aboriginal Business Education Partners (ABEP), Wuttunee supports Indigenous students pursuing a career in commerce. ABEP graduates have gone on to hold key positions in major corporations, non-profit organizations and become successful entrepreneurs. The mother of two was the first Aboriginal woman in Canada to earn her MBA and three years ago was named, by the Women’s Executive Network, one of Canada’s 100 most powerful women. But there was a time when she felt powerless.

“Wuttunee’s introduction to mental illness came 25 years ago, immediately after the birth of her son. Within a week of coming home she developed symptoms of postpartum psychosis. She never harmed her baby but became paranoid and delusional. Wuttunee believed people hid inside her livingroom TV and behind her bathroom mirror to watch her every move and take notes. She was too disconnected to feel afraid. “I was dead inside, I had no emotion,” Wuttunee says. She recovered during a two-week stay in a psychiatry ward.

Four years later, following the car accident, Wuttunee’s trauma-induced bipolar disorder reared its head. In the 12 months that followed, she experienced its characteristic episodes of manic behaviour and depression. Some days she was joyful and so energized she couldn’t sleep more than three hours. Other days, she couldn’t get out of bed. “You have to work with your doctors. You have to say, I have a problem.’ You have to deal with it right away because you don’t want your life stolen. You don’t want any time of your life stolen because you made a choice: ’Well, I can tough it out’ or ’I’m not crazy.’ I’m not crazy either, but I have a mental illness. And I go to my doctor and stay on my meds and don’t miss any time,” she says.

It’s never been a barrier, Wuttunee insists. In fact, she says the experience has enhanced her roles as a mother, teacher and mentor for Indigenous students. She’s better equipped to support students facing their own obstacles, of which Aboriginal people as a whole have endured their unfair share. “But the really cool thing that gets me fired up is we’re all facing the same obstacles and there are people getting around them—under, over, through, whatever they can. I want to say ’We still have hope.’”

Wuttunee acknowledges mental illness can still carry a stigma, perhaps ever more so in the academic world where people are prized for their minds. “Now, do I think people are going to look at me funny? I don’t know;” she says with a shrug of the shoulders and a smile. “I am who I am.”

In May, the U of M launched a new mental health strategy, recognizing the university’s responsibility to its students, staff and faculty to support wellness on campus and put forth concrete ways to do so. Success through Wellness looks at current practices and identifies areas that can be developed.
THE FUTURE of HISTORY

Award-winning social studies teacher Matt Henderson wants to know: Are you experienced?
AS A WEIRD TEENAGER growing up on the tough streets of River Heights in Winnipeg, I have two principle memories of my development. The first was a sense that Winnipeg had history. As a paperboy employed by the Winnipeg Free Press, I was acutely aware that “stuff” had happened in Winnipeg that I didn’t know about. I could tell by the faces of the people in the paper, by the buildings I would see downtown as I cruised on the 18 Corydon, and by the language my grandparents used, that Winnipeg used to be at the heart of something interesting.

My family spoke of borscht, dance halls, and odd things labelled nips, gitch, and “Saraday” (a strange pronunciation of Saturday, no doubt). All of these things seemed to be out of my experience and were difficult for me to understand.

The second memory I have as a youth is that of Columbia House. Do you recall the record club that you could join whereby you ordered 20 records for a penny? This deal was clearly too good to be true, but I was a sucker. The byproduct of my gullibility was a slew of records which ranged from the Smiths to Europe (yes, the Final Countdown band). Within this mishmash, however, was a reissue of Jimi Hendrix’s 1967 Are You Experienced?

From my parents’ basement, this album fundamentally changed my perception of music, art, and what the human brain was capable. I am sure countless hours were spent trying to mimic Highway Chile.

But the title of this album has stuck with me through my teaching career—Are You Experienced? I increasingly have questions related to my conceptualization of experience and what I mean by an educative experience. We are perpetually experiencing something, but are we always learning and transforming? I know when I write multiple choice tests that I am experiencing something, but am I seeing the world in a new light?

In terms of teaching Canadian history, something that I am fond of, I have attempted to explore this thing we call experience. What I have found is that if we do not exploit the experience of our learners, we are unable to foster learning communities where transformation is possible. By transformation, I simply refer to what Jay Roberts, author of Beyond Learning by Doing, outlines as a “holistic process and includes self-awareness, social embeddedness, and behaviour change.” Easy, right?

Not at all, and in fact it is the quest that all of us as educators pursue on a daily basis. If you’re like me, you fail most of the time, but there are those times where we can truly say that a learner has had an educative experience that has been transformational.

Each year, I begin my history course with a look at the Red River. I begin here mostly because the majority of my students have some understanding of Winnipeg—a relationship with it. The Red River itself loops around our school in a lovely oxbow-ish way. We discuss which way the river flows, when it freezes, how it floods, and how we are dependent on the entire drainage basin. These ideas are difficult for my international students, mind you, as they often assume the river runs south and they are not quite sure what a beaver is. (I once showed a beaver to a wonderful student from China who refused to believe that such an animal exists. I wouldn’t believe me either!)

Once we are able to situate ourselves in the ecology of the space we know as the Red River, we begin to explore our first peoples through Elders and leaders in Winnipeg, through primary sources, and literature. We have recently finished reading Joseph Boyden’s magical Three Day Road as a means to make sense of colonialism and empire, and the learners have been able to experience these concepts through alternative chapters which they have written. Last year, our learning community investigated the Idle No More movement, and we came out of the process understanding that we are all brothers and sisters who share this land. This was a transformative experience based on our collective experience. But before we can move into these educative experiences, I need to know where my students are at. Who are they? What forces have led them to this time and place?

To get up and lecture about confederation or globalization is the most arrogant thing I can do—don’t get me wrong; I love listening and giving lectures—but how can we possibly expect transformation if we are not lecturing, facilitating, directing, teaching, scaffolding, nudging, etc., with the experience of the learner in mind? If transformation is the goal (and if it is not, count me out) then using the experience of the learner is paramount. As educator David Orr suggests, good teaching and learning “occurs in response to the real needs and the life situation of the learner,” and that “real learning is participatory and experiential.”

When I step into the class on Monday, do I truly seek transformation of my learners (and myself)? Do I want to help them become better people? Do I want them to change the world? If yes, then I need to understand and know them and allow them to experience the world. Anything less is an injustice.

Alumnus and master’s student Matt Henderson received a Governor General’s History Award for Excellence in Teaching in 2013. The social studies teacher encourages his Grade 9-12 students at St. John’s-Ravenscourt School to take the lead, write their own history and “create their own truths.” So far they’ve published their own textbook on the Idle No More movement, created a podcast series on human rights violations, and entered Henderson to run for a seat in Parliament.
WHY DIDN’T I THINK OF THAT?
Asper School of Business students aim to take their learning from the classroom all the way to market. Here’s three entrepreneurial ideas that could turn U of M-born businesses into household names.

ON THE ROAD TO BIG BUSINESS

When Gillian Kirby was dreaming up a business concept for class, she remembered something her fiancé would gripe about. A maintenance manager for a trucking fleet at the time, he was frustrated he couldn’t find a product that would effectively prevent drivers from skidding their tires on the highway.

Overnight, truckers apply their braking system to keep from rolling but in the winter the brakes often freeze. Come morning the tires won’t rotate even though the semi-trailer is back on the road. This skidding wears down the tires so much that they blow at high speeds.

The repairs and inconvenience that follow cost North American trucking companies an estimated $300 million a year, Kirby says. She and three fellow MBA students from the Asper School of Business came up with a solution: attach sensors to the tires that ‘talk’ to an indicator on the dashboard, alerting the driver to trouble.

This Bluetooth technology picks up where the competition fails short. Options already on the market require more effort on the drivers’ part, Kirby explains. They have to paint their tire and then drive a few metres to see if the mark moves (which can be a pain in the cold) or attach a plastic device to the hub cap and watch through the side-view mirror to see if it’s moving (which isn’t always easy at night).

Her company, Don’t Be Skiddish, took their prototype made. “We just thought we had an idea for a school project and here we are filling for patent protection,” says Kirby. “It’s been pretty amazing.”

DEATH BY HOSPITAL CURTAIN

Up to 95 per cent of privacy curtains hanging in hospital rooms harbor pathogens that can make you sick and even kill, explains Zach Wolff, 27-year-old CEO of Exigence Technologies—a partnership between three MBA students from the Asper School of Business and medical textiles researcher Song Lui.

But what if the fabric could destroy germs on contact? The team is bringing to market a patent-pending technology that, when applied to textiles, creates an antibacterial barrier. Given hospital curtains are washed as little as once every six months, this coating would allow the fabric to self-decontaminate in the interim.

Both an MBA student and engineer, Wolff says it could also be applied to bedding, scrubs and eventually bandages for wounds, offering a less expensive, less toxic, quicker-acting and more advanced option than silver, the antibacterial agent now most widely used to bolster fabrics. Lui has spent a decade developing the science.

“Our product is the only one out there that doesn’t promote antimicrobial resistance,” says Wolff, who worked closely with Lui to further hone the researcher’s technology to create a manufacturing-friendly application process.

“This is definitely a field of study in which there is a lot of development underway but we’re really leading the pack.”

Hospital-acquired infections cost the North American health-care system as much as $48 billion a year, he notes. Their dream to provide a nationwide solution keeps him up at night.

“If we began approaching it as a school project but it’s taken on a life of its own,” says Wolff, who initially connected with Lui when looking for something to pitch at an international business planning competition. Instead, Wolff got some intense real-world experience. “It couldn’t be any more real,” he says.

FOR THAT CELL PHONE YOU CAN’T LIVE WITHOUT

If Nick Danzinger has his way, soon you’ll be able to step up to a mall kiosk, design your own custom engraved cell phone case using an interactive touchscreen, and then have it made in less than five minutes.

The recent Asper Business School grad, founder of Digiplus, has already turned his business of engraving the premium cases for corporations—made out of materials like bamboo, leather and aluminum—into a full-time job, doing the engraving work himself using specialized equipment. But Danzinger wants to take his business to the next level and is now developing proprietary software (what he calls his “secret sauce”) that would make a quick, one-stop shop possible, and eliminate the need to have someone operate the machine. “The idea is to make a licensable technology,” the 25-year-old says.

Majoring in financial and management information systems taught him how to use technology to improve on existing practices. Ever the entrepreneur, Danzinger recalls one of his lucrative childhood enterprises—selling little frogs made from construction paper to his elementary school classmates—and the pocket full of quarters it netted him. “My mom got mad at me,” he jokes.

No longer afraid to share his ideas, Danzinger says he values feedback from industry experts to make sure he’s on the right track.

“And the truth is: almost nobody is going to steal your idea because people are busy doing their own things.”
MEET TEHYA BOLDUC, 20
FIRST-YEAR SCHOOL OF ART STUDENT

What are you working on?
I have to make a picture based on an emotion or feeling … I’m doing calm and stillness. But I haven’t figured out how I’m going to make it work.

What emotion do you feel most?
At the moment very calm and happy I guess. My life’s good right now.

What do you like about art?
Expressing creativity and being able to use my hands, just being able to make things out of my own head to, kind of, make it more real … I have the problem of thinking it in my head and when I draw it out it looks a little different. But most of the time it’s actually better.

You have a lot of buttons on your backpack. Which one is your favorite?
I like the Audrey Hepburn one right now. She reminds me of important people in my life, like my grandma. My grandma was always really classy and really elegant. She really liked nice perfumes and things like that, Audrey Hepburn kinds of things.
University of Manitoba students take part in service-learning experiences across the globe, including in Tanzania (pictured here). Read more on page 5.