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OPEN RIVERS :
RETHINKING WATER, PLACE & COMMUNITY

WATER @ UMN

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from multiple perspectives within and beyond the academy.

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The cover image is of The East Bank of the Minneapolis campus of the University of Minnesota and the Mississippi River from the Washington Avenue Bridge. Image courtesy of Patrick Nunnally.

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TEACHING AND PRACTICE

THE RIVER IS THE CLASSROOM

By Linda Buturian

This is a story about water.

The Mississippi River flows just beyond the buildings on the University of Minnesota's East Bank where my office is. Most days, as I have

done throughout my 16 years here, I walk along the river to the classrooms where I teach. It would be hard to find a person on campus who



Illustration from "Every Day Epiphany" in "The Changing Story: digital stories that participate in transforming teaching & learning" by Linda Buturian, 2016. Image courtesy of Yong Ye.

doesn't share a nostalgic fondness for the river as we glance at it, drive over it, and jog and bike across it. We are happy to claim the river under

the bridges, across the swathes of pavement, and framing the city skyline.

But this is a story about water, and water flows:

Into us.

The water we drink and use on the Twin Cities campuses comes from and returns to the Mississippi River. Colleague Jonee Brigham, creator of art-led environmental education, Mississippi River Water Journey camps, helped

me understand that our drinking water is processed from two water treatment plants, and our sewage from the campuses goes into the Mississippi at the same wastewater plant.



Students in seminar “Water, Water, Everywhere? Investigating & Protecting Our Life Source” on the Mississippi River, 2008. Image courtesy of Linda Buturian.

Into our learning.

In 2007 I designed a writing-intensive seminar that introduced students to water resource topics including those relevant to the Mississippi, from disciplines in the sciences and the humanities. I sought out colleagues who specialize in water—ecologists, environmental chemists, engineers, planners, artists, and community activists and organizers. To communicate the multifaceted nature of water as well as access students’ visual ways of knowing, I designed a capstone digital story assignment asking each student to select a water resource topic and create a 5-10 minute media project, which featured an interview with a

relevant specialist. These stories were shared on a public site. Spring 2008 was the first iteration of Water, Water Everywhere? Investigating & Protecting our Life’s Source.

As a creative writer and teacher of literature, I found it natural to begin the course by having students read poems, short stories, and essays about water, and getting them writing narratives about their own experiences. Many students’ potent memories involve water, whether it’s enjoying a family vacation to the ocean or summers at their cabin on the lake, or nearly drowning in a strong



Students in seminar “Water, Water, Everywhere? Investigating & Protecting Our Life Source” on a walking bridge over the Mississippi River, 2009. Image courtesy of Linda Buturian.

river current, or getting stung by a jellyfish, or never learning to swim due to the inherited trauma from their parents' frantic crossing of the Mekong or China Sea in order to save their own lives.

I didn't have to teach students to care about water, but instead created a space that allowed them to recognize that water has been a part of their living from as early as they can remember (and earlier). Calling on what was already existent in them, I selected readings, films, guest speakers, and field trips that helped students connect their lived experiences to larger issues: ecosystem health and runoff from large-scale

industrial agriculture; infrastructures that perpetuate unequal access to clean water; the impacts of privatization of water; unplanned development that leads to depleting our water sources; and geopolitical decisions to use water as a power-play, leaving vulnerable citizens in the crosshairs. Students were also introduced to the many possible solutions to these complex challenges.

At some point in the semester we went out to practice taking pictures along the Mississippi. The liberation students and I felt venturing down by the river returned with us into our classroom. Playfulness and creativity informed



Students in seminar “Water, Water, Everywhere? Investigating & Protecting Our Life Source” on a walking bridge over the Mississippi River, 2010. Image courtesy of Linda Buturian.

our discoveries as we interacted with images, research, writing, and discussion, in part because we were figuring it out as we went, but also due to the elemental roles of creativity and playfulness in engaged and experiential learning. Einstein referred to the process of discovering insights through interacting with different modes of inquiry as “combinatory play.”

Each student selected a topic, conducted research, and sought out a University of Minnesota (UMN) or community expert, interviewed them on camera, and bravely persevered through the hydra-headed technical problems, especially that first year, (before the University had Smart Learning Commons which supports students’ media projects). Topics in that first seminar included bottled water marketing, rainwater harvesting in

India, and mercury contaminating urban lakes. We hosted a premiere with members of the public, ate popcorn, and students introduced their digital stories and shared what they learned.

In my years of teaching I had not before experienced such a consistent level of engagement with subject matter and investment in creating final projects. These were freshmen. What was going on? Several things, one of which involved the narrative visual nature of the digital story.

I continued to feel along the rope of these questions as I taught the seminar several more semesters. Over the years we visited the St. Anthony Falls Lab at Hennepin Island on the river to learn more about interdisciplinary ecosystem research, the Weisman Art Museum



Illustration from “In the Beginning” in The Changing Story: digital stories that participate in transforming teaching & learning by Linda Buturian, 2016. Image courtesy of Lauren Cooper.

to engage with art inspired by water, and always spent time along the Mississippi. Students often chose story topics that connected to their lives and academic interests. An agriculture student who grew up on a dairy farm researched manure management and interviewed farmers she knew. A Carlson School of Management student tackled the question of fiscal responsibility with regard to 3M and groundwater pollution, and traveled to 3M to interview one of its lawyers (an issue that has resurfaced in the [news and courts](#) as of late). Students created stories that questioned why the university has a ten-year contract with Coca Cola given its global impact on water and lives; that

revealed effective ways to teach the water cycle to third graders; that educated about wild vs. factory-farmed salmon; and that tackled climate change and bleaching of coral reefs. You can find their stories [here](#).

After teaching the seminar, I understood more about applied experiential learning, participatory use of multimedia (Jenkins et al. 2006), and transformative learning (Cranton 2016). Currently many educators and organizations are using digital stories as a teaching and communication medium and it's exciting to learn from these stories.



Phoebe Ward, Megan Mastel, and Linda Buturian in the course “Solving Complex Problems: Mississippi Global, Local: Community-based Approaches to Living with Rivers, Sustainably” on a walking bridge over the Mississippi River, 2015. Photo courtesy of Patrick O’Leary, University of Minnesota.

This is a story about water, and water connects us.

I could not have taught that course without the support of my department chair, colleagues, academic technology fellows, the College of Education and Human Development (CEHD), community members, and especially the many unfettered students. Nor could I have taught the first-year inquiry course I soon created with two colleagues around sustainability and social action, and then with a social scientist, where

hundreds of CEHD freshmen created relevant stories. Later, when I designed an upper division course connecting learning about the Mississippi River to other global rivers, and only two students enrolled, I thought it was doomed, but my chair approved it. That was in 2014. While writing this column, I contacted the two students and asked them what, if any, enduring learning occurred as a result of our course, “Solving



Students in “Thailand: Global Change, Communities, and Families” with Catherine Solheim on the Mekong River, 2015. Image courtesy of Linda Buturian.

Complex Problems: Mississippi Global, Local: Community-based Approaches to Living with Rivers, Sustainably.” Megan and Phoebe’s digital stories and their brief reflections, used with their permission, follow my column.

More recently, I collaborated with Professor Catherine Solheim in Family Social Sciences to design a study abroad course in Thailand, along the Mekong River: Thailand, Global Change, Communities, and Families. Once students returned to campus they created digital stories reflecting on what they learned. Narratives that are alive in water and in the villagers who live

with the river, as well as in our students, are reflected in their stories.

This story reads like a straight line ascending trajectory, but it was not. Technology is a modern-day trickster and more than one student lost a digital story and had to start over. I spent hours flailing with technology. Course proposals were rejected, multi-year projects around water culminated in little more than lessons learned, a college closed, and a department dissolved. From water I learned to change course and keep flowing.

This story of water needs:

The scent of sage that I breathed in as we are smudged, those of us gathered for a Nobel Peace Dialogue Session, hosted by Augsburg University. Members of tribes including Dakota, Ojibwe, and Standing Rock Sioux, and others from the U.S. and Canada, were in the Dakota Memorial in Fort Snelling State Park. We listened as a tribal member shared stories of how this land is sacred to the Dakotas. And how, depending on which account is listened to, more than 1,600 Dakota noncombatants, men, women, and children were forced to live in an encampment here, in truth a concentration camp, over the winter of 1862-63. Estimates vary, but many froze or starved to death there, and the survivors were put on a steamboat down the Mississippi to the Missouri river. Those who did not die on that journey were sent to Crow Creek Reservation in South Dakota. Dakota people were forcibly removed from Minnesota, and there has never been an official acknowledgment that they belong and are welcome here. The airy feeling of tobacco in my hand as we walked silently down to the *B’dote*, offered our petitions and prayers, then scattered

the tobacco in the waters near the confluence of the Mississippi and Minnesota Rivers.

The beauty of the wild Rum River (Dakota name, *Watpa wakan*). I’ve walked along the stretch on our land for twenty years. My family and I have also swum and fished in, paddled, floated, and snowshoed on this river, which eventually flows into the Mississippi. (It took me several years to put together that rivers connect my work and my home.)

The dignity of the Iraqi delegates who visited the university in 2009 to learn more about water remediation, as they shared through a translator the challenges they face due to lack of access to clean water. The challenges are due to a grim combination of our country’s targeting of their drinking water and sanitation systems during the invasion in 2003, combined with several consecutive years of low rainfall, and Hussein’s atrocities, as well as northern countries controlling the water flow of the Tigris & Euphrates.

The dank smell of the Big Muddy, the warmth of the water, and the pull of the current as we waded into it up to our waists. The jolt of delight I felt dunking a broken, beyond-repairing iPad, then handing it to two students so they could also baptize it in this ancient, polluted, wondrous river.

The spray of warm water from the Mekong River (translated *mother river*) on my face as my colleague [Catherine Solheim](#) and I, along with

20 students, listened to teacher Kru-ti, who was speaking in Thai through a crackly microphone above the roar of the motor, about local knowledge, then waiting for his friend to translate. The rocking of the boat made our students sleepy in their life jackets, but they persevered as long-haired Kru-ti gesticulated out at a scattering of rocks and boulders rising above the water line. They looked like any rocks in a river to us, but Kru-ti shared the sacred stories specific to those rocks, and that the eggs of fish species are hidden



Himalayan Juntavero, Chak Kineesee, Oot, Miwatr Roikaew “Kru-ti” with Catherine Solheim on the Mekong River, Thailand 2015. For more information, visit [Mekong Mosaic: Life Along the River](#). Image courtesy of Linda Buturian.

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under them. These are fish that locals depend on for food and livelihood, yet Thailand and China plan to blast those rocks to widen the river so they can send barges down to the West to transport goods.

See the video “Mekong Mosaic” here.

The aroma of Thai white rice, vegetables from the market and just-caught fish cooking on open stoves, as later that evening on the banks of the Mekong, our Thai friends make us a feast. They create songs and music, playing traditional instruments, while we sweat and eat and dance and laugh together.



Rocks and boulders on the Mekong River, Thailand 2015. Image courtesy of Linda Buturian.

Water connects us. *Wakan*, Euphrates, Mekong, Mississippi. The vulnerability of living downstream connects us.

When students spend time with stories of water, in this case the Mississippi River, they become initiated not only into the qualities of water but also the darkness. They feel the tug of a line that connects them to what is alive in water, and the narratives of the past, present, and future that are revealed there. These narratives tell of the bones of runaway and enslaved people, and displaced murdered Native Americans, and the earliest immigrants too poor to live far enough away from the flooding. The stories speak of contaminants that undermine fish and other aquatic species' ability to thrive, and survive. Students come to understand that they play a part in this epic story cycle. And while much is given to them, something is also required of them.

Their spirits rise in hope at the beauty and wonder of this river, and the undaunted people who spend their life's portion enjoying and fighting for it. One of them is Sharon Day, member of the Bois Forte Band of Ojibwe, who leads Water Walks along rivers throughout the U.S., including here in her native state of Minnesota. A few years ago she walked the length of the Mississippi River, which took her 64 days. Sharon walks with other Native Americans and anyone else interested, and meets up with local people in their communities along the way. Women take turns carrying a copper vessel of water that they gathered from the headwaters and use in healing ceremonies along the length of the river.

Why is this a story about water?

I remember the moment, several years ago, on a warm spring day, when I was walking on the river side of River Road where there is no sidewalk and you have to keep an eye out for cars while focusing on your footing lest you slip under the large gap in the fencing and topple down the steep rocky incline. I was looking for bald eagles hidden in the trees along the bank, when I turned around and spotted one with its head swiveled in my direction. It was unnerving, stalking an eagle only to discover the bird clocking me. I glanced down at the Mississippi, and caught my breath, as it suddenly occurred to me that all these years I thought I was working on water, but what if it

was the other way around—that water is working on me.

Why is that improbable to most of us? When Sharon Day was asked by the Minnesota Public Radio host why she takes part in the water walks—is it to raise awareness about the pollution? She paused and said, “We support all of the efforts to improve the quality of the water...but what we are bringing to this work is that water is a living entity...the real purpose is to speak to the spirit of the water, to address that spirit, to say to that spirit the same way that we do when we go to church and offer prayers, to say that we love you and we thank you for this gift of life.”

Water is alive; it comprises 70-85 percent of our physical selves and animates all living beings. Everything we eat and drink contains water. As ecology professor Jay Hatch said to my students when he was a guest lecturer, given how much of our planet is covered in water, and that we need it to exist, rather than calling it Planet Earth we should have dubbed it Planet Water.

This is a story about water, about the Mississippi River, and about how the river is in us, and water is living, and has agency distinct from what we use it for. If these are true, could the river then be regarded as a kind of culture? If we applied intercultural elements of understanding, for example the Cultural Iceberg Model, to our engagement with the Mississippi River, how are we doing, respecting and embracing this culture as part of the rich diversity we experience on our campus (Hall 1977)?

What would happen if every student who attends the UMN-Twin Cities would be required to take a one-credit course on the Mississippi River, taught by faculty, staff, students, and community members? Students could choose from Recreation (zip lining across, canoeing in), Indigenous Storytelling, Plein Air Painting, Coding and Designing for the River, the Business of Commerce on the River, Winter Camping near the Headwaters, Aquatic Wonders, Youth, Environmental Racism, Justice and the River, Global Connections to the River, Twain Move Over: Women Write the Miss., and more. Maybe Wang Ping would be willing to come over from

Macalester College and lead students in rowing, then create river flags for Kinship of Rivers. The School of Music and Ananya Dance Theater could work with students to create an original composition and choreograph a dance inspired by the river. At the semester's end, students would organize a colloquium and share their findings. As part of the colloquium, musicians would play their composition while the dancers would perform on a flatboat just as the sun is setting golden across the water.

All students who graduate from UMN-Twin Cities would share an understanding that their lives are intertwined with this remarkable river. And when they settle into their communities in White Bear Lake or Dubai, in the Nordeast or Springfield, along with locating the nearest coffee shop, they would orient themselves in some way by the rivers or lakes they are fortunate to live near. And when they turn on their tap, they would be grateful, and curious to seek out its source, and they would understand that their lives are connected to that water. Because students are inheriting this story. They don't own the story but they belong to its inheritance.

We need each other and the river and other living beings to remember what is perhaps the most vital secret of our existence.

This is a story about water, and water is a living narrative, and we have our being in this story.

Phoebe Ward

Phoebe Ward was a student in “Solving Complex Problems: Mississippi Global, Local: Community-based Approaches to Living with Rivers, Sustainably” (Spring 2014).

Digital Story: Climate Change

I spent a lot of my class with Linda Buturian thinking about the invisible dimensions of water. Later, in other classes, I would learn about nutrient loads and hydroperiods, the origins of oxbow lakes and the catalogue of fishes. And all of this would be precious. But that’s not what I think of when I think of rivers, not at first: I think of the boat I went out on with my family one summer, and the soft evening air on my face; I think of walking out on a bridge in winter, and gazing out at a river frozen stone-hard and flat as a blank page of paper; I think of the Jura River where my grandmother’s family farmed pigs.

Rivers are, I suspect, an indispensable feature of many of our personal histories. We travel down

rivers in borrowed boats and our great-great-uncles drown in rivers and rivers bring us white crests of shell and rivers cast up stinking fish for our child-selves to shriek at and rivers baptize us and rivers give us a place to sit with friends and talk about nothing. To forget that is to forget a part of ourselves. That intersection of science and soul is difficult to put into words, but it is there, I believe, that the secret to protecting our rivers is kept. Linda made sure that we understood that the story does matter, because stories are how we as human beings decide who we are. So what we need to do, if we want to protect rivers, is tell the story of the rivers that brought us here.

Phoebe Ward graduated from the University of Minnesota in 2016 with a BA in Global Studies. She is starting a graduate program in Environmental Conservation at the University of Wisconsin-Madison in summer 2018, and hopes to eventually enter the field of water resource management.

Megan (Trehey) Mastel

Megan (Trehey) Mastel was a student in “Solving Complex Problems: Mississippi Global, Local: Community-based Approaches to Living with Rivers, Sustainably” (Spring 2014).

Digital Story: River Journey

Linda’s class about the rivers was a beautiful, meandering journey through, for me, previously uncharted territory in my undergraduate education, and emphasized a practice that I continue

to follow: telling the stories. A large component of our work included a self-guided video project which was a window into the power of communicating ideas through visual storytelling. It was inspiring to connect with members of the community and learn about their use of art and creative expression to illuminate the issues surrounding our water here in the Upper Midwest.

The experiential nature of the class, in the way that we went outside to be with the river, sit with

the river, engage and laugh and cry and share stories about what the river meant to us, is what has left me realizing to this day that the deepest and most memorable learning happens outside of the classroom.

Megan Mastel graduated from the University of Minnesota in the spring of 2014 with a B.S.

in Family Social Science. She is the owner of Natura North Holistic Health, a healing arts practice based in the Twin Cities and surrounding areas. Megan is also a teacher, designer, and mentor with Land by Hand and the co-creator of Open Hearth Permaculture Education.

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About the Author

Linda Buturian teaches in the department of Curriculum & Instruction in the College of Education and Human Development, UMN. She is the author of The Changing Story: digital stories that participate in transforming teaching and learning (2016) and World Gone Beautiful: Life Along the Rum River (2008). Linda is currently an Educator Fellow with the UMN's Institute on the Environment. She looks forward to spending a week with students during fall 2018 on the Mississippi River discussing storytelling, community, and the natural world.