Innovations in Teaching and Learning
2011-2012 ACADEMIC YEAR

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1. STUDENT-FACULTY RESEARCH COLLABORATIONS

Bio-indicators of metal stress
Students from Tacoma Public Schools’ Science and Math Institute (SAMI), Lincoln High School’s Lincoln Center, and UWT students Vicky Karout and Kelly Doyle, working with Dr. Jim Gawel (IAS), presented their research using bioindicators (metallothioneins) for monitoring metal stress in Puget Sound invertebrates at the 2011 UW Tacoma Environmental Research Symposium (UWaTERS) in Spring 2011. SAMI students and Dr. Gawel followed this in 2012 with a controlled experiment conducted in the facilities at Point Defiance Zoo and Aquarium examining the use of marine worms as bioindicators of metal stress in Commencement Bay sediments; these results will be presented at the 2012 UWaTERS symposium on the UWT campus. This project was funded by The Russell Family Foundation.


Conservation biology in eastern Kenya
Seven undergraduates have worked with UWT Professor John “Buck” Banks (IAS) over the past few years on an ongoing conservation research project in eastern Kenya, working with Kenyan colleagues to better understand the link between endangered bird species in the Arabuko-Sokoke Forest reserve and arthropod biodiversity - and also elephant disturbance.


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1 The Interdisciplinary Arts & Sciences academic unit at UWT.
Evidence-based policing
During winter break 2011-12, Drs. Alissa Ackerman and Tarna Derby-McCurtain (Social Work) e-mailed UWT Criminal Justice students to tell them they would be working on a document concerning community oriented and problem oriented policing as it pertains to the Tacoma Police Department (TPD). The TPD was going through a series of cuts at that time that would affect its ability to serve the city of Tacoma. Ackerman and Derby-McCurtain wanted to write a position paper, addressing evidence-based practices in policing that would inform the Tacoma City Council. They invited student involvement on the project, telling them the work would occur over the remainder of the holiday break.

Three students volunteered their time over the break to assist (Lauren Vetsch, Rebecca Knecht, and Stacy Kahler). Time was critical because the City Council was planning to make a budget decision related to the TPD in the coming days. The students pulled together data and details for several sections of the report including the history of Tacoma without community policing and the implementation of the current TPD Community Policing program and its impact on the community. They examined the proposed budget and the impact of the cuts on the TPD, meeting with the faculty members to incorporate findings into the report.

The work of this small group of collaborators resulted in a position paper to the Tacoma City Council, titled “Community Policing Strategies and Effectiveness in Reducing Crime.” The paper discussed the current operations of the TPD, the context of the proposed cuts, and a description of how the cuts would affect the TPD and Tacoma communities. The report was mentioned in print and television news media. The Chief of Police, the Union Vice President, and City Council members conveyed that the position paper made an impact and highlighted for them the importance of community policing. In addition, the Police Chief sent the report out to the rank and file officers, who in turn expressed appreciation that the University and its students recognize and value what they do on a daily basis.

Environmental toxins
Dr. Joyce Dinglasan-Panlilio’s students Tyree Williams and Manjit Nijjar (IAS) are starting work on a project in collaboration with the Washington Toxics Coalition examining the potential release of emerging contaminants such as perfluorinated compounds from consumer products. The project involves sampling 20 homes around the Vancouver, WA area for laundry rinse water and dust which will be analyzed for the presence of these compounds.

Joyce Dinglasan-Panlilio’s undergraduate research students presented posters at the annual meeting of the Society of Environmental Toxicology and Chemistry in 2010. One student poster received the Best Poster Presentation award for the Undergraduate Category. Manuscripts for both projects are in preparation.


**Eocene climate**

Three Environmental Studies students are currently working as part of an interdisciplinary UW research group that is studying the climate and environment of Gran Barranca, Argentina, approximately 50 million years ago. This is a critical time period that records major global shifts in climate and vegetation. The students are combining laboratory sedimentological and magnetic analyses to look for windblown signatures in geological samples that reflect cooling and drying. The research is being conducted with Drs. Peter Selkin and Sian Davies-Vollum (IAS) in collaboration with Dr. Caroline Stromberg from the Department of Biology at UWS.

**Geoducks**

IAS students Brenda Lemay and Yvonne Shevalier are coauthors on Dr. Bonnie Becker’s recent submission to Journal of Shellfish Research. A total of eleven undergraduates and one graduate student have worked on this geoduck-related research, including going out on the research boat (Citizens for a Healthy Bay as partners) and diving (Tacoma SCUBA as partners), as well as field work.


**Improving public-school discipline**

With a colleague from Seattle University, Dr. Laura Feuerborn (Education) leads a group of four graduate students on a project exploring the link between

- teacher and staff perceptions of behavior and discipline and
- the implementation of Schoolwide Positive Behavior Supports (SWPBS).

SWPBS is a discipline framework built on the principles of teaching and acknowledging appropriate social, emotional, and behavioral skills to students, in order to prevent problematic behavior in schools (e.g. violence, disrespect, harassment).

The students have volunteered their time to assist in the coding of qualitative data obtained by a survey developed for the project, the Staff Perceptions of Behavior and Discipline (SPBD). This will help identify staff needs and salient barriers in shifting from a reactive, punishment-based model of discipline to a more proactive system of social, emotional, and behavioral supports.

Dr. Feuerborn’s research assistant for this project, James Hogan, is a former UWT student and current UW-Seattle doctoral student. He is an integral part of the
project and collects and analyzes various disciplinary data from area schools, including the SPBD and the Schoolwide Evaluation Tool (SET). Additionally, Dr. Feuerborn is working with a UWT student to conduct literature reviews for this project.

**Nutrient cycling within water bodies**
In October 2011, four UWT undergraduates working with Dr. Jim Gawel (IAS) presented 5 posters and one talk on research on nutrient cycling in Spirit Lake and Wapato Lake at the 31st International Symposium of the North American Lake Management Society. These projects were funded by the City of Tacoma, The Mountaineers Foundation, and the UWT Founders Endowment.

**Plate tectonics in the Jurassic era**
Two students, Tiffany Degenstein and James Moore, will begin investigating rocks of the Rimrock Lake Inlier with Drs. Peter Selkin (IAS) and Peter Davis (Pacific Lutheran University) in Summer 2012. The Rimrock Lake Inlier may hold clues about activity at a major Pacific Northwest plate tectonic boundary around 160 million years ago. The project involves both detailed geological mapping and laboratory work (electron and optical microscopy).

**Promoting quality youth television globally**
Global Honors students Amy Hudgins and Margaret Lundberg were selected for the 2012 UWT-IZI (International Central Institute for Youth and Educational Television of the Bavarian Broadcasting Corporation, Munich) collaboration. Receiving a €1,500 scholarship each and working under the supervision of Dr. Divya McMillin (IAS, Director of Global Honors), the students conducted interviews with television professionals from over 60 countries at the 2012 Prix Jeunesse International festival in Munich (June 2012). Prix Jeunesse is the leading festival for quality children’s and youth television programs/media worldwide. It is the platform for exchange and reflection on quality in children’s media. During 2012-13, McMillin will guide Hudgins and Lundberg to analyze interview and fieldwork data, and develop manuscripts for publication in TelevIZIOn, the IZI’s research journal and for presentations at the 2013 Global Honors Colloquium. The collaboration initiated in 2010, is a result of McMillin’s ongoing work with the IZI and entails full sponsorship of year-long undergraduate research projects on global youth television.

**Reducing automobile idling**
Ellen Moore, a researcher in Environmental Communication (IAS), is working with UWT students Alysen Laakso and Kylie Lanthorn on an anti-idling campaign at two middle schools in Tacoma. They are using Community-Based Social Marketing (CBSM) techniques to test whether idling rates will be reduced at one low-income
and one middle-income middle school. They plan to present and also publish the results, which incorporate new elements into the CBSM technique.

**SoundCitizen**

SoundCitizen engages UWT undergraduate science students in exploratory research of regional significance.

Choices made by individuals and families living in the Puget Sound region play a major role in the release of pollutants into the environment. SoundCitizen pairs UWT undergraduate science majors with research faculty at the Center for Urban Waters to explore how spices and sweeteners in foods, ingredients of household cleaners, and items from the medicine chest make their way into Puget Sound. Trained to use research-grade analytical instrumentation, our students design and execute projects targeted on specific local issues. SoundCitizen also engages high school students and other interested individuals and groups, who send water samples that they collect from their neighborhoods to UWT for analysis. Not only does this research provide important observations about levels of these chemicals in Puget Sound, but the work also demonstrates the linkage between personal decisions, household activities, and the surrounding environment.

SoundCitizen is an intercampus UW collaboration between the UW-Seattle School of Oceanography (Dr. Rick Keil, who created the program) and the UWT Center for Urban Waters (Dr. Joel Baker (IAS), the current Principal Investigator).

Web site: [www.soundcitizen.org](http://www.soundcitizen.org)

**Studying marine environments**

Over two dozen undergraduate students have been involved with oceanographic research projects lead by Drs. Cheryl Greengrove and Julie Masura (IAS) locally in the Puget Sound region. One project examines the spatial and temporal distribution and ecological characteristics of the harmful algae *Alexandrium catenella*; a dinoflagellate that produces a suite of neurotoxins which can be concentrated in the tissues of shellfish, resulting in potentially lethal Paralytic Shellfish Poisoning. This project involves developing an *Alexandrium* cyst distribution map for shellfish growers and state and local health officials indicating potential problem areas. This current work is being done in collaboration with NOAA Northwest Fisheries Science Center and UW Seattle Applied Physics Lab (APL) and UW Seattle Climate Impacts Group (JISAO).

Drs. Greengrove and Masura are also leading a team of UWT students evaluating flushing rates, nutrient loading and water column oxygen levels in the fjords of Barkley and Clayoquot Sounds off the west coast of Vancouver Island and in Quartermaster Harbor, between Vashon and Maury Islands in central Puget Sound. The work in Canada is an ongoing collaboration with Dr. Richard Keil of the UWS School of Oceanography who is investigating carbon cycling in contrasting aerobic and anaerobic marine conditions. The Quartermaster Harbor Nitrogen Management Study, funded by EPA, is being done in collaboration with King County and Washington State Department of Ecology to evaluate the impact of nitrogen...
loading on documented low-level oxygen events in Quartermaster Harbor (QMH) and to assist in making recommendations for policy changes to nitrogen management on Vashon-Maury Island for the 2012 King County Comprehensive Plan.

**Teaching mathematics**
Dr. Julia Aguirre (Education) worked with an undergraduate student on her TEACH MATH grant (Teachers Empowered to Advance Change In Mathematics). The undergraduate researcher, Lucy DeCosta, is involved in data collection and organization, as well as assisting in research presentation preparation. She was a member of the team who attended the 2012 American Educational Research Association annual meeting in Vancouver, British Columbia.
2. INNOVATIVE CLASSES

Advanced Algorithms for ACM Programming contest
During 2011-12, an innovative cross-campus co-taught course involving UW-Tacoma and UW-Bothell CSS programs prepared students to learn advanced techniques for programming, in anticipation of the annual international ACM\textsuperscript{2} programming contest. The course was led by Dr. Ankur Teredesai (UWT Institute of Technology) and was co-taught with Dr. Michael Stiber (UW-Bothell) and three Microsoft Engineers who are past gold medalists of this contest. Sessions included online instruction involving sites at Microsoft, Bothell and Tacoma.

Board Governance
Created to engage students in learning about the role of governance in organizations, this Milgard School of Business course places each student on the board of a local nonprofit organization as an apprentice for two quarters. The service-learning nature of this course at the undergrad level is a unique and valuable experience for the students as well as serving local nonprofit agencies in improving their governance practices. An article about this unique offering was published in the *Journal of Management Education*.


Conservation Biology in practice
TESC 332: Conservation Biology in Practice, developed by Dr. Bonnie Becker (IAS), focuses on the recovery of the bottom of Commencement Bay. Working in collaboration with the Washington State Department of Ecology and as a service to Citizens for a Healthy Bay, students conduct surveys of benthic invertebrates of Commencement Bay following standard DOE protocols and do an analysis of the "health" of the bay.

Environmental Sciences seminar
The capstone course for the B.A. in Environmental Studies and the B.S. in Environmental Science, TESC 410: Environmental Science Senior Seminar, has student groups develop grant proposals for incorporating service-learning into the curriculum at UWT. Far from a busy-work assignment, the course is focused on teaching peer-review, editing based on reviewers’ comments, and collaboration with the public, and each year the best proposals are submitted for funding to outside agencies by the faculty for incorporation into the curriculum. This course thus far has created the UWT Giving Garden, the First Creek Outreach and Volunteer Monitoring Program, the Wapato Lake Volunteer Monitoring Program, the UWT Rain Garden, the UWT Water Bottle Filling Stations, and more.

\textsuperscript{2} Association of Computing Machinery
Glass art class collaboration with Museum of Glass
During Winter and Spring Quarters 2012, UWT and the Museum of Glass (MOG) revived and reinvigorated their partnership in offering a course in Glass Arts. The course constitutes a fantastic and unique opportunity for students while strengthening the collaborative relationship between UWT and MOG. Twelve students per quarter, from across all UWT majors, have been selected from over 100 applicants. These highly motivated students have been learning about studio glass making methods within the context of glass as a visual art material. They benefit tremendously from access to exhibitions in the museum galleries as well as use of the Museum’s state-of-the-art Hot Shop to achieve their learning goals. At the end of the quarter, students have a portfolio of glass artwork, much of which is on display for Museum visitors to enjoy. The collaboration involves IAS faculty and Museum of Glass staff and will continue into the 2012-2013 academic year.

Industry Fellows at UWT's Institute of Technology
The Industry Fellows model involves a faculty member, along with a practicing professional (the industry fellow), sharing joint curriculum review, planning and delivery of a course related to the professional’s domain of expertise. The industry fellow brings knowledge gained from professional practice, which they share with the learners. The professional works with the faculty member in reviewing the course curriculum, joins the faculty member in the classroom on a regular basis regularly as a co-lecturer, interacts directly with the students, and evaluates a sample of the student work on an advisory basis.

Origami math
For 2011-12, Dr. Ruth Vanderpool (IAS) developed and taught an origami math class for the UWT Freshman Core program. The math research community got pretty excited about origami math recently, making this a hot topic and a great way to engage math-phobic students in quantitative thinking!

Teaching public policy with public officials
Dr. Mark Pendras (Urban Studies) teaches TURB 345 Urban Government and Organizations, a course offered in cooperation with the City of Tacoma. It is innovative in the sense that it invites public officials to speak in the class each week and, on those nights, opens the class up to citizens. The officials speak on topics related to their field. This year the course was conducted in collaboration with a Local Government class at the University of Puget Sound (yet another innovative approach).

Wikipedia class project in Global Honors

Students in Dr. Cynthia Duncan’s TGH 302: Global Imaginations class developed 1200-1500 word entries on Cuban culture to enhance Wikipedia pages on the subject. Students went through all the steps of an in-depth research paper including investigation of primary sources, preparation of drafts, review of peer manuscripts, and presentation of final paper. The exercise of condensing complex material into brief Wikipedia entries allowed students to distinguish among varieties of sources, use databases and search engines, and master the style required for bibliographies and citations. It facilitated collaboration in an online community and development of multi-cultural awareness and sensitivity to a topic outside of most students’ cultural experience. Topics included "The Culture of Cuba," "Cuban art," "Cuban literature," "Music of Cuba," "Cinema of Cuba," and "Religion in Cuba."
3. INNOVATIVE COURSE DELIVERY

Essay feedback using open source screencasting (veedback)
Video feedback of student work in freshman composition classes (instead of red-pen corrections) has created a pedagogical practice at UWT that allows for tone, focused attention, and more personalized response to the learner. Using free Jing© screen capture software, the students were found to overwhelmingly prefer the short, video-Flash review of their work to written corrections.


Online math and stats courses
TMath 121 and TMath 110 are now online options at UWT, using open source content like Khan Academy to create self-paced learning. Based on research regarding lower division courses and the need for students to develop self-regulation, the courses are supported in a pilot of a mobile platform (Persistence Plus©) that uses transformative behavioral interventions to outreach, engage, and support students who would otherwise be at-risk for not staying on-track in an online course.

Technology Fellows Initiative
The UWT *Instructional Technology Fellows Initiative (IFTI) for Course Redesign* is a competitive fellowship for instructors doing innovative work in teaching and learning with online technology. Recognizing the hard work and thoughtful pedagogy that must occur when teaching is moved to the online format, UWT offers ten $5,000 stipends over Summer 2012 for UWT Technology Fellows to work together to explore new pedagogy as each Fellow redesigns one course using research-based best practices, UWT’s new Learning Management System (Canvas), and peer review of the completed course. Courses created within this initiative are supported by campus support that infuses engagement-by-design into the digital experience. Course modules begin with a short video of the instructor introducing a summary of the desired learner outcomes and reasons behind the material chosen for that unit.

Using Google Earth
Dr. Peter Selkin (IAS) has developed and is currently testing a set of peer-instruction tutorials that use Google Earth to teach fundamental concepts in geoscience. The tutorials and some preliminary assessment were presented at the 2012 UW Scholarship of Teaching and Learning Symposium. Work like this has earned Selkin a reputation in the region as an expert in teaching geoscience with Google Earth.
4. FROM THE CLASSROOM TO THE COMMUNITY...AND BACK

**Bringing science to the schools**
2011-12 was the first year of a partnership between Lowell Elementary School in Tacoma and IAS’s Environmental Science and Environmental Studies majors involving ‘green team’ internship at Lowell. The internship gives a UWT student year-round responsibility for running the school’s environmental club (green team) under the guidance of an IAS faculty member and Lowell teacher. The club meets on a regular basis and takes part in environmentally-focused event. They are currently working on creating signage for the school’s new native plant garden.

TESC 333: Environmental Chemistry, taught by Drs. Jim Gawel and Joyce Dinglasan-Panlilio (IAS), has incorporated service-learning into the difficult curriculum to improve learning by having UWT students teach basic environmental chemistry concepts to students at Tacoma’s First Creek Middle School each quarter this class is offered. This Science Cafe format has drawn rave reviews from First Creek students, teachers and their principal.

**Engaging fifth graders on campus**
In addition to students’ individual service requirements in the community, students in TURB 312 (Race & Poverty in Urban America) planned and hosted a half-day campus visit for the 55-member fifth-grade cohort of McCarver Elementary School. McCarver is 7 blocks from the UWT campus center, just outside the campus footprint. McCarver has Tacoma School District’s highest incidence of students eligible for free and reduced lunch (95%), a turnover rate of 100%, and an estimated 25% of students who have experienced homelessness. Exposing McCarver students to campus visit raises their awareness of the value and the accessibility of post-secondary education. Students in the course developed a theme, core messaging, and logistics for the visit. They identified and recruited speakers, designed program brochures, solicited business contributions for token gifts, arranged meal and transportation. The visit itself and a brief promotional video raised awareness of UW Tacoma as a locally accessible and viable source of post-secondary education for residents of the Hilltop neighborhood.

**Global and local engagement**
The Global Honors Program strongly promotes experiential learning globally and locally. Seniors in Dr. Divya McMillin’s TGH 490: Research Methods Seminar develop research proposals for their capstone projects which could include a thesis, study abroad, or internship. Under the supervision of faculty advisers, students complete capstones for presentation at the Annual Global Honors Colloquium in the Spring quarter of each year. On 17 May 2012, 14 students from nine majors delivered well-researched presentations on such topics as “Identity Struggles of Arab and Muslim Minorities in the United States,” “The Global Refugee Crisis,” “Palestinian Statehood,” “Global Citizenship vs. Global Competitiveness in...
Education,” and “The Contradiction Between Security and Human Rights in the European Union” (to name a few). Topics grew out of study abroad experiences in Germany, Ghana, the Netherlands, Israel, and Italy. Topics such as “Humanitarian Medical Aid” and “Personality and Student Success” grew out of an internship with the US Department of Health and Human Services and from involvement with K-12 education in Tacoma, respectively.

Global Honors provides Communication majors the opportunity to develop skills in public relations and advertising through its Communications Internships. Working under the supervision of the Program Administrator and the Director, interns gain experience in event management, publications (including the newsletter, research journal, website, catalog, and advancement materials), community outreach, and alumni relations.

The Global Honors Program has established an internship partnership with Russell Investments and plans to explore other community collaborators in the coming year.

**Joint Base Lewis-McChord (JBLM) internships**

When UWT Chancellor Friedman first met with JBLM leadership in the fall of 2011, internships were put on the agenda. In winter quarter 2012 we acted on this and initiated the program with two Urban Studies students working in the planning department and chief of staff’s office. For Spring Quarter 2012 we have increased to three students, including two Urban Studies majors, one with a focus on Geographic Information Systems, and one Milgard School of Business major. They are working in the planning department and on a new research project in the human resources division on the army transition process (ACAP). There have been several subsequent meetings with JBLM leadership, both on base and on campus, exploring additional internship opportunities as well as other issues of mutual concern (new majors, transition from military to university, etc.).

Why are the internships at JBLM important?

- First, they signal a relationship with a strategic community partner that generates mutual benefit.
- Second, they enhance student learning by providing unique opportunities through community engagement.
- Third, they provide valuable professional experience for our students at one of the largest employers in the south Puget Sound area.
- Fourth, they create shared interests between the base and university, supporting the leadership at both in further initiatives.

In summary, the internships with JBLM are evidence of an increasingly positive relationship between the university and the base. Having students at the forefront of the reinvigorated relationship also underscores our campus mission...
Museum of Glass internships

UW Tacoma and the Museum of Glass launched an exciting new program of unique, team-based, year-long internships in the spring of 2012. The students involved in the internship program come from across campus, including the Milgard School of Business, Institute of Technology, the Healthcare Leadership program, and a range of majors within Interdisciplinary Arts & Sciences. The UWT students are involved in the development of two exhibitions scheduled to debut at the Museum of Glass in January 2013, one featuring the work of Benjamin Moore and the other work from various collections around the Seattle-Tacoma area.

The students are working on all aspects of exhibit preparation in various departments of the museum, including Communication, Marketing, Advancement and Curatorial. In the case of the Northwest Artists Collect exhibition, featured works will come from the private collections of local artists and art lovers. There will be three pieces from each collection: one selected by the artist, one selected by the curatorial staff at the Museum of Glass and perhaps most exciting for the student interns, one selected by the interns themselves. The students will then develop all the materials to accompany the exhibit and articulate the reasons that a particular piece was chosen.

Puget Sound sediments

Dr. Bonnie Becker (IAS) has established an internship team with the Department of Ecology Sediment Monitoring Team. She has had a total of seven students (six currently) work for them sorting their samples, which they used to send out to a contractor. This saves their limited resources, and gives students experience in the valuable skill of taxonomy. The students have participated in collecting cruises as well, and form the primary team working on collecting and organizing samples to be sent into the International Barcode of Life in Guelph! Dr. Becker will also be co-organizing a taxonomic workshop for her students and others at the UW with the State Department of Ecology this summer.

Social work interventions

Advanced Integrative Practice I and II, a two-quarter course sequence for M.S.W. students, teaches students how and requires them to design an intervention focused on a specific problem or need. Each intervention is developed based upon extensive work including a problem map, force field analysis, survey of the literature, and needs assessment involving key informant interviews and focus groups. The interventions are intended to address real community needs of client or constituent groups. Near the end of the course sequence, students present their work to community members and the campus community at the Social Work Capstone Fair.

Examples of the application of interventions in the community include: a) implementation of a relaxation group in a local mental health center where therapists refer their clients to the group as an adjunct to clinical work, and b) the development of training available to foster parents to assist them in understanding
the funding options and processes for foster youth who lack traditional family supports as these youths apply to higher educational institutions.

**Tacoma Math Ambassadors**
Dr. Julia Aguirre (Education) has established the University of Washington Tacoma Math Ambassadors Project. The math ambassadors are seventh and eighth grade students from First Creek Middle School in Tacoma. The students attend the university for the day to work with teacher candidates on math projects. Ambassadors share their work, insights, and questions with the teachers candidates to help teachers make math meaningful and interesting for middle school students. In addition to math projects, students attend a session on precollege advising and learn about the importance of math in college and career preparation.

**United Way of Pierce County**
A group of Milgard Scholars has engaged for the past two years with United Way of Pierce County. The first group spent time identifying ways that UW Tacoma could engage with volunteer opportunities available through United Way. The second group created a business plan for United Way’s Youth United program that will enable United Way to make their innovative Varsity Letter in Community Service program available to other agencies throughout the country.

*MBA Project for United Way of Pierce County* – A group of MBA students in a Marketing Strategy class worked with UWPC to create a new marketing plan for the agency. The students spent time translating the marketing concepts from the classroom into a cohesive marketing plan for the agency. The goal of the plan is to reduce “donor churn” and create a donor eco-system that encourages a longer-term relationship with the agency as an agent of community change.

**Zina Linnik Project**
Each Spring Quarter, TURB 335 (Community Development) students participate in a collaborative community development initiative pre-selected by the instructor. In spring 2010 and 2011 the initiatives were centered on planning, promotion and participation in community celebrations related to the Zina Linnik Project. The Zina Linnik Project (ZLP) is an organic community collaboration centered at McCarver Elementary School in Tacoma’s Hilltop neighborhood. The project escalated from the community’s response to the abduction and murder of Zina Linnik, a fifth grade student at McCarver. Community demands for safe places for children to play resulted in Metro Parks and McCarver Elementary as conveners of the project focused on restoration of a municipal park adjacent to the school. Fifty percent of class sessions are conducted in the field; students apply and evaluate community development best practices from course literature to the collaborative project and experience firsthand the triumphs and challenges of community development.

In 2010 the class planned, promoted and participated in the McCarver ZLP groundbreaking ceremony. Fifty percent of class sessions held at McCarver and on
streets of Hilltop. Collaborated with fifth grade students to created posters, signage, and groundbreaking festivities; wrote speeches, rehearsed song and poetry performances; phoned and emailed public officials; canvassed Hilltop residential neighborhood to invite participation; designed, produced and sold fundraising tee-shirts at community gatherings while following theorized community development best practices.

In spring 2011 students planned, promoted and participated in inaugural McCarver ZLP Play in Peace Day, ribbon-cutting ceremony. Created websites, designed brochures, mailed 200 promotional letters to business owners; visited 130 Central Tacoma business entities; arranged mascot and band appearances, wrote and delivered speeches, rehearsed and supported elementary student performances. Sold tee-shirts and promoted event at Tacoma farmers market and other locales. Provided practical experience in community building and direct contact with Hilltop residents and business operators. The groundbreaking and Play in Peace festivities received extensive regional video and print media coverage. The university-elementary school collaboration won awards from the Red Cross and from Metro Parks Foundation.
5. REAL PROBLEMS, REAL SOLUTIONS

Ecological restoration at Mima Mounds and Pierce College
In Dr. Ursula Valdez’s TESC 362: Introduction to Restoration Ecology class (Autumn 2011), students got involved in hands-on learning in different on-going projects of ecological restoration in the area. Students participated in removal of invasive species and habitat recovery activities in collaboration with projects at Mount Rainier National Park, Mima Mounds Natural Area, Citizens for a Healthy Bay, City of Tacoma, Elk River and Woodard Bay. They also collaborated with Mima Mounds Natural Area researchers collecting data on endangered native species. Data, reports and GIS information generated by students in the class were sent to the managers of the project as a contribution for future management plans.

In the tri-campus Restoration Ecology Network Certificate program capstone sequence, mentored by Dr. Ursula Valdez, students developed and implemented a restoration ecology project in collaboration with Pierce College, community stakeholders and local volunteers. Students adopted an area at PC that was dominated by invasive species. Through careful planning, they have removed these species and planted a careful selection of native species corresponding to native habitat historically occurring in the site. Not only have the students done an excellent job applying good science, but they have also established lasting relationships with PC and other stakeholders.

Monitoring water pollution
Dr. Joyce Dinglasan-Panlilio, Instructional Supervisor Lia Wetzstein and Dr. Jim Gawel (IAS) launched a Joint First Creek Monitoring and Stewardship Project in 2010 that was just recently funded again by the Russell Family Foundation for the year 2012. The project brings together UWT students and First Creek Middle School students on measuring water quality on a storm water impacted creek that empties into the Puyallup River. The data generated from this project is shared with the community and the public in general to show that efforts such as clean up and restoration will have a positive impact on their local environment.

This project was also supported by the City of Tacoma, the Puyallup Tribe, Green Tacoma Partnership, Forterra, Washington Conservation Corps and Youth Service of America through several grants and awards since 2010. The project website was recently launched (www.firstcreekstewards.org).

Response to Intervention in partner schools
To increase program coherence and strengthen relationships with local schools, the Response to Intervention (RTI) project engaged in a systematic process of developing partner schools to provide well-designed and coordinated field experiences for UWT’s teacher candidates. The process has involved shifting from placement of teacher candidates with individual teachers to a model that engages the university and selected districts/schools in an ongoing collaboration toward the
development of a residency program that integrates experiences in both general and special education.

Project RTI partner schools serve considerably diverse student populations. The percentages of non-white students in our schools range from 20% to 75%, with the majority of our schools serving more than 50% non-white students. Each of the partner schools meets the minimal requirement of at least 25% free and reduced lunch. However, the majority of UWT partner schools exceed 50% with the highest percentage of free and reduced lunch rates reaching 82%.

The benefits of becoming a Project RTI Partner School include opportunities to: build the capacity of instructional coaches and teachers, collaborate with university faculty on the development of new teachers, receive targeted technical assistance and professional development from university faculty and Office of Superintendent of Public Instruction (OSPI), engage additional support for struggling students, and build knowledge of RTI systems with building and district administrators.

All of the Project RTI partner schools are committed to working collaboratively with the university in an RTI model that focuses on prevention of school failure through the implementation of evidence-based practices. Finally, it should be noted that several of our partner schools have been awarded “School with Distinction” from OSPI due the improved performance of their lowest achieving students.

**STEPS**

Andrene D. Johnson (UWT junior, Psychology) and Alyssa Huyen Nguyen Damo (UWT senior, Psychology) participated in the Make a Difference Day park clean-up in October 2011. The project was a lasting memorial to Billy Ray Shirley, a 17-year old youth homicide victim whose life dream had been to change the world by eliminating pain and hurt. As an East Tacoma resident, Billy Ray spent many, many hours volunteering in the community showing other youth an alternative to gang violence and striving to build a community center for neighborhood youths.

Johnson said that the project, her first ever service or community project, changed her life. Damo was moved by the coming together of community members, nonprofit organizations, Metro Parks, and UWT to clean up the park and honor the legacy of Billy Ray. All who participated made a pledge to continue to keep the eastside park clean and safe. The strong commitment and joining together of neighbors and organizational representatives made a powerful impact on all who were there – especially including UWT students Andrene Johnson and Alyssa Damo.

Carolyn Audrey Lowe, also a UWT junior in Psychology, participates in STEPS where she serves as a mentor to an 11th grade young woman at Mt. Tahoma High School. Carolyn derives tremendous satisfaction from this activity. As a Latina, she talks about her cultural obligation to share her knowledge and experience with others, as well as the importance of reaching young people early in their lives to guide them to productive and positive life choices. The mother of 2 young

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3 Students Together Empowering Personal Success
daughters, Carolyn Lowe also sees the need to connect with youth on a regular basis to listen to their challenges and encourage their dreams and successes.

Turning waste products to clean water

_UWT undergraduate's research seeks to show two wrongs do make a right._

Storm water running off of city streets is a major source of pollution to Puget Sound. The emerging field of ‘green infrastructure’ includes engineered solutions such as rain gardens, green roofs, and pervious pavements—all designed to reduce or eliminate pollutants in storm water. At the UWT Center for Urban Waters, undergraduate Environmental Science student Brian Hite is working with the City of Tacoma to develop an innovative synthetic soil mixture for use in storm water rain gardens. While soil must contain nutrients so plants can grow, the rain gardens are designed to remove the same nutrients from storm water, and leaching of nutrients such as phosphorus from rain gardens is a significant design problem.

For many years, the City of Tacoma has converted wastewater biosolids, an organic-rich by-product of sewage treatment, into the soil amendment Tagro. While Tagro is great for plants, initial research showed that using this composted biosolids in rain gardens resulted in large release of phosphorus from the soils, which would cause significant water quality impacts downstream. To fix this problem, Hite is evaluating adding a second waste product called ‘water treatment residuals’ (WTR) to the soil mix. WTR is a by-product of drinking water production, and happens to strongly bind phosphorus. Combining Tagro and WTR in series in storm water rain garden soils may promote strong plant growth while preventing nutrients from leaching from the garden. This research is locally relevant to Tacoma, as Tacoma Public Utilities is constructing a $200M water treatment facility that will produce large quantities of WTR. Finding beneficial uses to what otherwise would be a waste products (biosolids and WTR) drives the strong economic benefit of this research.

Wapato Lake

Dr. Jim Gawel’s Environmental Science students Heather Jennings, Anna Sonoqui, Steve Ayers, Cierra Hancock, Jenn Guenther and Christina McCallister, were funded by a contract with the City of Tacoma to monitor nutrient inputs and outputs for Wapato Lake in South Tacoma to construct a hydrologic and nutrient cycling model for recommending management actions to decrease water quality problems in the lake and increase public access to this historically valuable resource in the heart of Tacoma.
6. OTHER TEACHING/LEARNING INNOVATIONS

Milgard Invitational Case Competition on Social Responsibility
This inaugural event took place on 20 April 2012 and hosted seven teams from universities throughout the Pacific Northwest. Case competitions are common in MBA programs, but are found less often at the undergrad level. To the best of our knowledge, this is the only invitational competition in the country for undergrads that focuses specifically on corporate social responsibility.