Professional Autobiographical Sketch: My professional autobiography is driven by the pedagogy that continual reflection and action will lead to praxis in my learning, teaching, service, and scholarship.

Learning. Through the University of Wisconsin-La Crosse, I have earned both my Bachelor's of Science in English and Mathematics Education as well as my Master's in Education-Professional Development. During my graduate courses and thesis research, I was introduced to the works of Paulo Freire and critical pedagogy. This learning has radically transformed both myself as a person and my educational perspectives. Dedicated to lifelong learning, I continually involve myself in new activities that push my understanding of teaching, technology, and society.

Teaching. My foundational experience in teaching began as first-year educator in a rural school district. This experience provided me the opportunity to explore different pedagogical and assessment practices that enhanced the learning of all students.

For more than eight years, I have worked with the TRiO programs of Upward Bound, Student Support Services, and McNair Scholars program. These programs are designed to assist low-income, multicultural students to achieve success in their undergraduate and graduate college careers. My roles as an educator have evolved throughout these programs, but at the core, I developed horizontal relationships founded on mutual respect and trust, recognizing the power of our collective experiences to transform one another.

As an Associate Lecturer for the Mathematics Department, I have taken my passion for social justice mathematics to the collegiate level. I purposefully create diverse learning groups within my classroom of returning adults, veterans, multicultural students, and students from low socio-economic status. These dynamic groups then explore social inequalities such as the wage

gap between white men and white women as well as white men and minority groups of black men/women and Hispanic men/women. This project has allowed students to openly reflect upon this social inequality as well as enhance their math skills in systems of linear equations. For example, my first year student was able to reflect upon her role in this unequal society, "Being of Hispanic heritage, the fact that not only do Hispanic women make almost half of what a White male would, but it would take 242 years for Hispanic women, like myself, to be earning the same amount of money as White males raises some distressing thoughts about discrimination, racism, and prejudice in this society."

Additionally, I co-teach a freshman seminar course entitled University Wide Learning (UWL) 100. My specific population of students for the Fall 2011 semester comprised of first-generation college students, where neither parent nor guardian graduated from a 4-year university. Assisting these students in understanding college life, both academic and social, led us on journeys and discussions about hate crimes, White Privilege, International Education, and students with (dis)abilities.

Lastly, my role as the Murphy Learning Center Director, a free tutoring center for Mathematics, various Science courses, and Writing, has allowed me to work with a wide range of students and tutors. Specifically, I have guided tutors in becoming more versed in best practices of teaching and learning. My directorship has produced a 25% increase in the number of students utilizing the Murphy Learning Center services as well as increased funding in order to implement a tutor training program to enhance the quality of our tutoring to all students.

Service. I view service as an integral part to a healthy lifestyle. I serve on committees at UW-La Crosse that further me as a person and a professional, including the Organization for Campus Women (OCW), which promotes a mission of empowering women to be leaders on

campus. As President of OCW for the 2011-2012 school year, my mission has been to serve both the UW-La Crosse community and the greater La Crosse community. We have conducted several outreach activities to date, including a coat/mitten drive for the New Horizons Women's Shelter, an educational toy drive for Salvation Army, and a nutritious food drive for the UW-La Crosse Helping Our Own food pantry. Additionally, we have raised approximately $500 for the OCW scholarship which assists returning adult women in their educational studies.

Another service activity is my role as co-facilitator of the School of Education Diversity Organization (SEDO). Through SEDO, I have assisted minority students interested in education to gain skills necessary to pass the PPST through a series of workshops. Additionally, I have assisted in organizing opportunities for minority pre-service educators to gain experiences in education including working with children with disabilities and low-income students. Lastly, as an extension of SEDO, my co-facilitator and I gained a grant to bring minority and low-income high school students interested in a career in education to attend a day-long event called Future Educators Day. By collaborating with the School of Education, we were able to assist 18 future educators come to a better understanding of the vital importance minority educators play.

Lastly, one of my greatest service activities was publishing a bilingual (English and Hmong) children's book called *Ka's Garden/Kab Lub Vaj*. This multicultural book serves as a vehicle to provide more Hmong children's literature in the greater La Crosse area where over 10% of the students are of Hmong decent. By reading this book at local elementary schools, churches, and libraries as well as sharing the book's message about the interconnectedness of the Earth and all beings, I provide a venue for open discussion about the Hmong culture and community.

Scholarship. My scholarship has interwoven the concepts of best practices in mathematics, social justice, and technology in learning. Specifically, I work toward helping pre-

service and in-service teachers utilize technology to enhance student learning utilizing digital media such as podcasting, learning object creation, and iPad applications. Through various local, state, and regional venues of conferences, journals, and technological resources, I have furthered educational research while making a direct impact on student learning in the PK-16 setting. Below is a focused selection of my various scholarship activities:

Research Grants

Kosiak, J.J, McHugh, M.L., Hasenbank, J., & Fuchsteiner, A. "Technology-Enhanced Applications for Mathematics." Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics. National Science Foundation Division of Undergraduate Education. $339,150. (Submitted January 3, 2012).

McHugh, M.L. & Kosiak, J. J. "Advancing the Teaching and Learning of Statistics." Center for Advancing Teaching and Learning. University of Wisconsin La Crosse. $2,000. (July 2011-June 2012).

Vang, X. (Principal) & McHugh, M.L. (Co-Principal). "Future Educators Day." University of Wisconsin System-Teacher Recruitment and Retention Initiative Grant. "$4,998. (June 2011-October 2011).

McHugh, M.L. "GRE Quantitative Learning Objects." University of Wisconsin – La Crosse Curriculum Redesign Grant. $5,000. (August 2010 – July 2011).

Kosiak, J.J. (Principal), Hoar, R. (Co-Principal), McHugh, M.L. (Co-Principal). "MathCAST: Collaboration and Alignment to Advance Student Learning in Mathematics." University of Wisconsin System Grant. $58,239. (August 2009 – July 2010).

McHugh, M.L. & Kosiak, J.J. *Ka's Garden: Promoting Inclusive Excellence.* University of Wisconsin – La Crosse Foundation Grant. $1,000. (August 2010 – December 2010).

McHugh, M.L. *A Children's Story: Creating Connections between Hmong Culture and Mathematics*. University of Wisconsin – La Crosse, Graduate Student Research, Service, and Educational Leadership Grant. $2,000. (June 2009 – December 2010).

Publications

McHugh, M.L. (2011) Pre-service teachers' beliefs, dispositions, and abilities regarding social justice and mathematics. University of Wisconsin-La Crosse.

McHugh, M.L., Kosiak, J.J., & Hoar, R. (2011). Enriching Student Learning of Mathematics through Podcasting. *Wisconsin Teacher of Mathematics*.

McHugh, M.L., Lo, B., & Lao, V. (2010). *Ka's Garden/Kab Lub Vaj: A Bilingual Children's Book*. Universal Human Publishing.

Selected Presentations

McHugh, M.L. Masters in Education-Professional Development Fall Conference. La Crosse, WI, "Social Justice Mathematics: A New Approach to the 3 R's". (November 12, 2011).

Kosiak, J.J., McCool, J., & McHugh, M.L. Mathematical Proficiency for Every Student Conference. "Mathematical Modeling in Grades PK-8." (November 10, 2011).

McHugh, M.L. & Kosiak, J.J. Wisconsin Mathematics Council Annual Conference, Green Lake, WI, "Connecting Children's Literature and Mathematics". (May 6, 2011).

McHugh, M.L. & Kosiak, J.J. Act 31: Widening the Circle Indigenous Education Symposium, La Crosse, WI, "Social Justice Mathematics: A New Approach to the 3 R's". (April 8, 2011).

McHugh, M.L. & Lo, B. Act 31: Widening the Circle Indigenous Education Symposium, La Crosse, WI, "Looking at Literature: An Examination of Hmong Culture Found in Children's and Young Adult Literature". (April 8, 2011).

McHugh, M.L., Kosiak, J. J., & Hoar, R. Wisconsin Education Association Annual Conference, Madison, WI, "Building Digital Learning Objects to Enhance Student Learning". (October 29, 2010).

McHugh, M.L. Midwest Reading Council Annual Fall Conference, La Crosse, WI, "Investigate! Create! Integrate!". (October 23, 2010).

Reasons for wanting a Ph.D. in Curriculum and Instruction: "I know oftentimes when you throw out the term multiculturalism, it feels like something I personally can't relate to because I'm a white female, but when you throw out social justice, that's something I can relate to" (Focus Group Interview, December 6, 2010). This reflection, taken from my thesis research, exemplifies how a social justice pedagogy enacted in the classroom can transform one's education, one's personal life, and one's future teaching philosophy. My journey toward understanding critical pedagogy began with my graduate studies and the teaching of my thesis chair, Dr. Robert Haworth. His teaching and enactment of a social justice pedagogy initiated my

own personal journey in this field. This journey was fueled by reading books such as *Rethinking Mathematics* (2005) a publication of Rethinking Schools, *Pedagogy of the Oppressed* by Paulo Freire (1970), and *Reading and Writing the World with Mathematics* by Eric Gutstein (2006).

My thesis research centered on working with pre-service elementary educators who were taking their elementary mathematics methods course. Most of these teacher candidates had never heard of social justice nor how it could be enacted in the classroom. Through collaborative research, intensive discussions, and purposeful modeling, these pre-service educators gained more awareness of social justice and its place in the math classroom.

It was during this research process that I realized my passion and commitment to work with pre-service educators. I recognize that these educators will have a direct impact on the future students of America and beyond, and I realize that my teaching practices can affect generations of children to come. Therefore, one reason I desire a Ph.D. in Curriculum and Instruction is so that I can continue working with pre-service educators. I hope to gain a position in a university setting where I can critically educate future teachers.

My personal transformation into a critical educator has left me desiring more knowledge of how to implement this pedagogy. I crave more understanding of how to bring my students to a deeper, more critical awareness of societal practices. By obtaining a Doctorate in Curriculum and Instruction, specifically from New Mexico State University whose program is focused on critical pedagogy, I know that I will transform my thinking, teaching, and daily living practices.

Program Area of Interest: The program area of critical pedagogy most interests me. I began studying the works of critical pedagogues in my Masters program, and I seek to continue learning and growing through reflection and action.

Philosophy of Education: As an educator, I have been given the opportunity to influence the lives of my students. My part in the continual learning process is that of change agent, facilitator, guide, mentor, encourager, and resource. I enact this role:

- By being a passionate, dynamic lifelong learner.
- By creating an inviting, trusting atmosphere where critical dialogue and community learning can occur.
- By developing horizontal relationships where students can openly explore societal inequalities.
- By demonstrating that true equality can only occur when all students recognize the problem and work toward a common solution that mutually benefits all people in society.
- By involving all individuals in a learning process that allows for exploration and creating ultimately leading to increased understanding.
- By appreciating the uniqueness of each learner and thereby creating learning experiences conducive to multiple learning styles.
- By valuing the process more than the solution.
- By designing assessment tasks that build content knowledge critical to the full participation in society.

My goal as a critical educator is to create a safe, collaborative environment where all learners can develop the skills necessary to fully examine societal inequalities and grow as agents of change.

Effective Teacher Qualities: Although there are many qualities that are important for educators to possess, the most pertinent of those qualities include the three C's: communication, content, and change agency.

These three qualities all came together during a recent classroom visit prompted by a social justice math project I implemented into my remedial mathematics classroom. As previously mentioned in the autobiographical sketch, my students investigated the wage gap between white men and white women, black men/women, and Hispanic men/women. After reflecting upon their learning, I asked the students the important question, "So what?" What did

this new knowledge mean to them? What did they want to do in response to their learning? Their answer: tell others.

A group of students decided to share their learning through a unique presentation to a group of pre-service elementary educators. Mimicking my lesson launch, they began by asking for a male and female volunteer to share a typical day. After sharing their day, the students asked, "Who works harder?" Everyone agreed that the two volunteers worked equally hard, so they handed the male volunteer a PayDay candy bar, thanking him for his participation. Then they pulled out a second PayDay candy bar, cut off one-fourth of the candy bar, ate that chunk, and handed the rest to the female volunteer, thanking her for her participation.

This brought about a lively discussion about how much society deems a woman's worth, which as of 2010 is 77 cents for every $1.00 earned by men. The students then presented the pre-service educators with the data that at the current rate, white women and white men will not earn equal pay until 2087. Additionally, a Hispanic female student of mine pointed out that she would not earn equal pay with white men until 2252. My math students then proceeded to discuss how this math project opened their eyes to the wage gap and how their prospective careers might be impacted.

Why do I share this experience? I feel that my students and I engaged in all three necessary components of an effective teacher: communication, content, and change agency. My students effectively communicated to other college students about a serious social inequality that all people should be aware of. They utilized their content knowledge of mathematics to critically demonstrate the ramifications of the wage gap. Lastly, my students became agents of change, taking their learning and finding an avenue to make a difference through educating others. Now, I realize my students were the ones enhancing their communication, content, and change agency,

but to me, that is the essence of a critical educator: one who puts the ownership of learning on her students, recognizing that education is at its most transformative power when students become the teachers themselves.

Schooling for Diverse Populations: For three years, I worked as the English/Mathematics Specialist at Student Support Services, a TRiO funded program. During that time, I worked with a diverse population of students including low-income, multicultural students, returning adults, veterans, bilingual students, and students with disabilities. Of the many students I interacted with daily, there are two students' stories that changed my teaching practice.

Lydia (name changed) was a student I worked with who had dyscalculia, a learning disability that encompasses a wide-range of difficulties with mathematics. Like all students with a disability, the university required Lydia to complete her general education mathematics course. After two attempts at Statistics, Lydia came to our program for assistance. What I learned most from working with Lydia was to not focus on her disability; rather I discovered how to enhance Lydia's stronger capabilities of reading for understanding then translating that knowledge into mathematical formulas.

Working with PaChoua (name changed) opened my eyes to the ways a diverse linguistic background can bring on challenges even in the math classroom. When working with PaChoua in her mathematics, I was surprised when she could not add 0.5 and 0.5 mentally, a skill needed in her course which did not allow calculators. I asked her to think of money and changing 0.5to 50 cents. She still had difficulty adding the two quantities. Upon some discussion, I found out that PaChoua, a Hmong refugee, came to the United States when she was in second grade. At the time, she was put in an English speaking classroom with no ELL classes to assist in learning

the language. Since her primary focus for nearly three years of her elementary education was to understand the English language, her basic math skills never developed. Once she entered middle school, she was allowed to use a calculator, which was why she was able to pass mathematics until this college course. Though I realized that language might be a barrier for some students, this was my first encounter with how a language barrier inhibited math skills.

Overall, these experiences are among the many that have changed my understanding of teaching for diversity. Through the effective teacher qualities of communication, content, and change agency, I recognize that I must approach each student as the unique individual they are, not put the student in a pre-conceived label. By continually reflecting upon my educational practices and taking concrete actions to better serve the needs of all students, I will continue to grow into a critical educator.