Description of Research Agenda

Introduction

My research goals stem from my recently completed doctoral dissertation and from an idea I discovered while teaching a course on Website design. This essay will briefly describe how I will develop my dissertation work into a series of three books and into seminar-based leadership development. I will also describe a long-term, enterprise project which I will undertake with my students to develop a school-based solution to deficient broadband access, or "the Digital Divide".

The Stand Series

My doctoral research explored sexism in the I.T. profession, based on interviews with ten veteran female software engineers. The dissertation will be expanded and updated significantly to appeal to a wide audience. Three books will result from further scholarly research and interviews. The first book will expand on the major theoretical constructs which supported the original research. Pierre Bourdieu's theory of Symbolic / Cultural / Social capital and his theory of Habitus were the centerpiece of the original research. This book will add Étienne Wegner's Communities of Practice framework as a major framework for explaining success in the I.T. workplace.

The second book will examine both scholarly and popular sources for explaining the struggle between male and female workers, and between workers and management. Scholarly sources will take precedence, but major cultural strains such as geek culture, "Brogrammers", and media influences such as "The Big Bang Theory" will influence how conflict is analyzed. The third book will explore in depth how collaboration can solve many of the issues in question, though mitigated and negotiated through the efforts of leadership.

Leadership Development

One implication I identified in my doctoral research was the need to develop leadership at the very lowest levels of any organization. The specific example I cited was I.T. workers reflecting on and changing their own culture, one which currently discriminates against women. Reflection brings workers the insight they need to better understand the cultural changes which need to be implemented. Group discussion of these reflections leads to the more practical changes and actions necessary to precipitate and support cultural change.

Leadership should aim to break the "you go first" logjam which exists between workers and management. Both need to act in concert to bring about cultural change, and both need to be invested in its results. The infrastructure supporting this effort would resemble a movement more than a formal organization. This has its advantages and disadvantages, but flexibility and fluidity is key, and those are mainstay properties of a movement.

Technical Project: Wheel

One semester, I taught an Internet design class during which we explored issues surrounding "The Digital Divide". The Digital Divide is a largely class-based division between those who have relatively easy access to broadband Internet services, and those who find such access difficult to find – or more precisely – to afford. A 2016 aerial map by the Minnesota Office of Broadband Development shows how Internet access across the state of Minnesota is very uneven; the map resembles a piece of swiss cheese. Large areas of easy or readily available Internet access exist in and immediately surrounding major metropolitan areas, while large rural areas have nearly or essentially no access at all. That said, the map is an *average* of Internet access points; there are certainly areas in large cities where broadband access is equally unavailable, such as poorer neighborhoods or housing developments.

The **Wheel** project proposes a temporary or school-based solution to the problem of broadband Internet access. Students who receive inexpensive laptops or other mobile technology (e.g. phones) often receive lab or homework assignments including or requiring an Internet search. The **Wheel** framework will essentially consist of a web server and local cache of web pages. Teachers would select a collection of web pages to add to the cache, designed to be returned as a response to a search engine request. The **Wheel** framework would simulate Internet access well enough to fulfill the requirements of Internet-based assignments without actually using broadband Internet.

This solution is admittedly does not substitute for live broadband Internet access. The goal of universal broadband Internet access across the state of Minnesota is a worthy goal, which I completely support. All the same, the **Wheel** project would provide students a way to train on Internet technologies while a more permanent solution to broadband Internet access is still under development.

Conclusion

This is only a sketch of my goals. My dissertation provided many avenues for further research on sexism in I.T. and ways for leadership to change it from the inside. At the same time, I will also pursue a technical solution to an immediate problem where social justice and technology meet. I look forward to pursuing these in the years to come.