Advocates for Broadband Adoption

COML 508 A2

October 18, 2011

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An Introduction to the Issue

There is a rift in America today that threatens to divide our populace into two groups: those who use broadband Internet connections, and those who do not. Presently nearly 100 million Americans, or one-third of the country, do not have broadband. Of those 100 million, "18 million of them could not access it even if they wanted to" (Voskamp, 2011). Commonly known as the "Digital Divide," public/private partnerships have been working for years to close this gap and ensure race, age, income, gender, and geography do not dictate whether or not someone has access to the Internet. Since the program's beginning, leaders and communities have realized that connection alone is not the issue; rather quality of connection is the key (Greenstein and Prince, 2006, p. 33). Having broadband (high-speed) and wireless access, and knowing how to use it, are essential to ensuring these disadvantaged groups can use that connection to contribute to our country's society and economy. This paper will focus on how to best prepare rural Americans to make full use of broadband connections through one-on-one and small group instruction.

As Warren observes, "the Internet is becoming embedded in society so rapidly that it is becoming a default medium for anyone wishing to provide information, to perform transactions, to create civic engagement" (p. 384). He goes on to say that while some people have volunteered to be disconnected, "others are involuntarily excluded by factors outside their control—the factors that characterize social exclusion. Thus social exclusion leads to digital exclusion, which in turn leads to deeper inequalities . . . the vicious digital cycle" (p. 385).

A connection to broadband is moving from something that is nice to have, toward an important part of everyday life (Warren, p. 384). Rural America's lack of connection to the full

strength of the Internet threatens America's economic and educational strength. Today "50 percent of . . . jobs require some technology skills – and this . . . is expected to grow to 77 percent in the next decade" (Voskamp, 2011). Seventy-one percent of teens "say that the Internet was their primary source for a recent school project;" these are the same students who spend an average of 7.5 hours every day "using technology to access information and people" (Liu, 2011). Failing to bridge the Digital Divide diminishes America's chance to remain strong in the global economy as the economy and education grow more dependent on the Internet.

While connection is an essential element of closing this gap, it is not the only essential element. Educating the users about how to use that connection is equally, if not more, important. Such education can ensure broadband connections help communities, and the country, reap the largest societal, educational, and economic rewards possible from those connections.

In our research for this project, we saw particular promise in rural education and training program models used in the United Kingdom (Warren, pp. 381-382). Specifically, we appreciated the U.K. programs' commitment to: 1.) taking educational opportunities to the users (e.g., in village halls, pubs, and in mobile computer labs), rather than requiring users to come to the educational opportunities; and 2.) using one-on-one and small group instruction to improve the learning experience. Without this attention to hands-on education, many rural residents—those who do not own computers, those who have never before turned on a computer, those who do not know how to find and use the countless online educational modules that exist—will never know what broadband can do for them.

Our initial plan for this paper was to modify these British models to meet rural America's needs. However, after further research, we discovered many of these ideas are currently being piloted as part of the Minnesota Intelligent Rural Communities (MIRC) project. (Special thanks

to Dawn Hegland, Andrea Lewis, and Bill Coleman—all affiliated with MIRC—who generously agreed to be interviewed as part of our research.) Therefore, instead of focusing on modifying British programs, this paper will introduce several of the educational programs currently being piloted by MIRC, suggest ways to build upon them, and explain how elaboration likelihood model can help MIRC's educational programs continue to realize the fullest possible success, even if grant funding decreases or disappears.

The Theory: Elaboration Likelihood Model

The challenge in shrinking the potential Digital Divide is two-fold. The first consideration is the actual, physical availability of the technology, in terms of infrastructure. This facet has any number of complicating issues, including the capability of the technology, the lay of the land, and development costs. The second, our focus, is on persuading those people who are within reach of broadband connectivity to use it to its full potential. To help overcome this lack of understanding, we will apply the elaboration likelihood model (ELM) of Richard Petty and John Cacioppo (Griffin, 2009). ELM "is the theory of public and personal influence that claims that credibility facilitates persuasion" (Griffin, 2009, p. 475).

The availability of utilities such as electricity and water satisfy basic human needs. It is simple to understand their importance to all people, rural or urban. Safe roads play a role in safety as well as commerce; their importance is also easily understood. The need for broadband access is not as evident for those who are not privy to the benefits. Potential users may dismiss its value and importance. For instance, some may relegate Internet use to the category of entertainment, as one might with cable television. However, those who experience broadband Internet under the guidance of a knowledgeable instructor—such as those who are part of MIRC—quickly discover the practical benefits of the rich media accessible via broadband. Many

of the MIRC education programs exemplify the advantages of small group education, when led by an expert.

Considering the economic implications of broadband availability, it is important for the majority of residents in rural communities to grasp the need for both broadband access and a well-rounded understanding of how to fully utilize that access. Organizations of any variety, businesses, schools, hospitals and the like, when educated, can benefit immensely from broadband technology.

We propose applying ELM to ensure a strong positive change in attitude (Griffin, 2009, p. 195) among the people who do not yet truly understand the benefits of broadband access. Because the process of learning how to properly use broadband and its capabilities takes place across multiple interactions, it is imperative to strive for a lasting change. According to the model, this level of attitude change is possible through the central route of elaboration. This route ultimately "requires high levels of cognitive effort," (Griffin, 2009, p. 194), so our program must be compelling and answer these guiding questions about broadband adoption: 1.) is it worth the effort, and 2.) can they (those considering broadband adoption) do it? We contend the answer to both of these questions is yes; here is why.

As stated previously, our initial plan was to emulate the programs used in the United Kingdom for computer and Internet training, customizing them for use in the part of rural America targeted for broadband expansion. Since MIRC has developed and deployed a similar program, we suggest building upon the MIRC program's current successes to increase positive attitude change, and grow understanding and use. To do so, we will introduce a new component to MIRC's model—one to recruit, equip, and train advocates who reside in these rural communities, but who are not employed by MIRC-affiliated agencies. In this next section, we

will develop the concept of this initiative, which we call the Hometown Advocate Program (HAP).

The Program: Hometown Advocate Program

The HAP addresses the questions of the central route for the elaboration likelihood model and includes the benefit of training resources that would remain in rural communities for decades to come. Each geographic target area, whether a town or a county, would have a certain number of specially-trained HAP team members, based—in part—on the target area's population. When building this cadre of advocates, we recommend using a screening process to help ensure the right people are on the HAP team. Once through the screening process, we recommend HAP team members be rewarded for their work with incentives to help ensure they have the tools needed for them, their students, and the program to succeed.

HAP team members would need to meet specific qualifications, demonstrating mastery of the skills needed to help their students attain a higher level of proficiency in broadband use. The advocates will have used broadband personally for any or all of the variety of benefits, including online banking, shopping, education, health records management, and social networking. For commerce, the HAP team member will have effectively managed a business website and business-related transactions. HAP team members would also need to be screened for their ability to work well with small groups. Qualified HAP team members would also be primed through "train the trainer" workshops and modules—led by MIRC educators and others with similar skills—to provide training to students in their target areas.

To reward HAP team members for their service, we recommend incentives such as free or reduced-cost equipment and broadband service. This is similar to providing a vehicle to a car

sales person. The sales person becomes personally familiar with cars, thereby improves his or her ability to sell cars.

This incentive component meets some of the equipment needs HAP team members would have to train others, such as training guides and computers for demonstration and training purposes. These needs could be met through extending the MIRC program's existing equipment subsidies, loaners, and devices refurbished through entities like PCs for People. In cases where short-term, recurring needs for equipment exist (e.g., a small computer lab that is used only a few hours every week), a mobile lab like the Computer Commuter (being used in Lac qui Parle County) could be a solution that literally delivers these resources to multiple communities for a fraction of the cost.

To train HAP team members, MIRC could focus resources such as the Computer Commuter on instruction events specifically designed for HAP needs. This "train the trainer" workshop would provide HAP teams with the knowledge necessary to assist their students in making the most of broadband. These trainings could be facilitated by existing MIRC educators. Another option for training HAP teams is to expand on MIRC's engagement with the University of Minnesota Extension—and involve other public and private universities—and use qualified undergraduate and graduate students to help train HAP team members through internships and service learning projects.

To further the HAP team members' training, a primary learning objective during the initial, on-site training would be to orient HAP team members to a specialized online portal for HAP. This could be a slightly modified version of the many MIRC resources online. It would include information available on best practices and new training aids to help them continue their own education. The portal would also foster connecting with MIRC educators and to network

with other HAP team members who are themselves working to close the knowledge gap portion of the Digital Divide.

Petty and Cacioppo identify “things that are personally relevant get trapped and tested” (Griffin, 2009, p. 195). Testing is necessary considering the cognitive processing required to achieve our goal for positive attitude change. The HAP addresses personal relevance with people who are peers, neighbors, family members, fellow members of the chamber of commerce, etc. Since the HAP team member is, as the initiative title implies, from the hometown of those participating in the training, the team member is better able to help the student understand broadband use and imagine how it can apply personally. The HAP team member is well positioned to help open the student’s eyes and help connect the student with the resources and successes available through broadband.

Extension

The elaboration likelihood model leaves off at the point of personal decision. Since the power of the application of this model to this social problem is met through advocacy, we would extend the model to include steps to move the individual to a commitment to advocacy. In other words, once the personal decision is made, we would work to eventually advance the decision-maker from user of broadband to advocate for broadband. This deeper level of commitment would, of course, be optional.

To achieve this commitment, we would suggest frequent (monthly) HAP events, with the specific intent of recruiting advocates through shared success stories. This may involve additional online resources via the advocate portal. HAP members would have access to user adoption success stories and data and the capability of scheduling online video and chat sessions

with people who have achieved success. This in itself would double as a demonstration of broadband technology.

Petty and Cacioppo suggest "strong arguments will produce major shifts in attitude in the direction desired by the persuader (p. 197)." The goal for the HAP events, then, would be an appeal to the variety of personal interests by way of real stories from people in the same or nearby communities.

Example data for this step may include:

- An increase in student enrollment via online education programs
- An increase in customers served via eCommerce
- Reduced hospital stay (see slide eight of MIRC presentation)

The elaboration likelihood model suggests strong arguments of this nature have the potential to cause a persuasion to "persist over time, resist counterpersuasion, and predict future behavior (p. 197). Griffin notes that this is the "triple crown of interpersonal influence" (p. 197).

One benefit of the HAP is that it has the potential to outlast the resources (i.e., grant money) fueling the MIRC program. As broadband use increases in communities and MIRC is able to grow the “culture of use” (D. Hegland, personal communication, October 14, 2011), need for focused work by MIRC—in its current form—in that target area decreases. From our vantage point, ultimate success for the MIRC initiative would be broadband availability and use patterns that are similar to any other community in America. In other words, MIRC would even the playing field and work itself out of a job. The HAP, as outlined in our plan, does involve resources, such as incentives and training. However, an advocate in the truest sense requires nothing other than understanding and passion for the content. HAP team members will be

inclined to retain the passion and demonstrate the benefits of broadband long after the MIRC program ceases to serve that target area.

Conclusions and Further Research

Based on the proven strengths of the elaboration likelihood model, along with the successes realized in the United Kingdom and the positive preliminary results of MIRC's work, we feel the HAP would help keep rural Minnesota on the right path toward dramatically shrinking the educational segment of the Digital Divide. Furthermore, we feel these models and practices could be used throughout rural America, realizing similar successful results.

It is important to note, however, that ELM is not the only communication theory at work here. Once the HAP team member gets the student engaged in broadband use, Joseph Walther's social information processing theory, specifically computer-mediated communication, begins influencing the student, helping allay possible anxieties about online interactions. Additionally, when preparing HAP team members to teach, the instructors would likely give them direction on how to introduce and use different computer- and Internet-based terminology, in order to help ensure team members are able to teach in a way that students receive and understand the lesson content as intended. Whether or not they realized it, the instructors would be guiding HAP team trainees through the nuances of Gerry Philipsen's speech codes theory. Also, the hometown link that is inherent in the HAP approach would—according to Sandra Harding and Julia Wood's stand point theory—help strengthen HAP's genuine, accurate assessment of the knowledge gap, and the approach to closing it.

Our recommendation of creating and implementing the HAP would strengthen the "culture of use" (D. Hegland, personal communication, October 14, 2011) in rural Minnesota, give rural communities "authorities in residence" right in their own neighborhoods, and would

leave knowledgeable, trained, motivated individuals in those communities well after program funding shrinks or disappears, giving MIRC a unique opportunity to withdraw from the community while knowing its success will live on well after MIRC's departure.

Admittedly, there are always limitations to such programs. We recognize several, and will expand on two here. First, at some point in the learning process, a student's needs become so individualized that group instruction is no longer effective, and the instructor's own expertise may not encompass the student's area of need. We presume that—after going through the various layers of education available from MIRC and the proposed HAP—when the student reaches this point, he or she would be in much the same position as his or her urban peers, with options such as webinars, workshops, chat rooms, etc., to fill the knowledge gap. We have already alluded to the second limitation, which is that at some point in time, rural communities' access to, and knowledge of, broadband will be of such high quality that the Digital Divide, as we know it, will become a thing of the past. Certainly this is not to say that rural communities will have 100 percent broadband use and all users will fully maximize its potential. It is only to say that at some point, access and user knowledge will plateau, and possibly mirror access and user knowledge in urban communities. When this time is reached, civic needs and goals should be re-evaluated and potential needs and solutions re-addressed.

Prior to further planning of the HAP, several layers of research should be conducted to help guide its creation. First, the future technical knowledge needs of target communities should be researched in order to ensure the individuals recruited for HAP teams are the right fit—and have the right knowledge—for each community's need. For example, a community working to recruit a Facebook datacenter to its town would likely have needs different from a town with multiple cottage industries looking to further strengthen their business-to-consumer online

commerce skills. Assessing these needs could be as simple as interviewing MIRC staff, MIRC students, and local civic leaders. Second, MIRC leaders would need to identify and secure more low- to no-cost trainers to help educate HAP members. The University of Minnesota Extension presently plays an important role in MIRC; perhaps undergraduate or graduate students from state and private universities and colleges could host HAP "train the trainer" workshops as part of internships or service learning projects. Third, should MIRC choose to incentivize HAP team members with discounted or free hardware or broadband access, those costs must somehow be covered. Possibly private sector groups that have already shown commitment to this program—e.g., Best Buy, PCs for People, and local Internet service providers—would be able to provide such support. Fourth, to measure the effectiveness of the HAP team members themselves, MIRC program coordinators could survey students both before and after using HAP team members, asking students questions to measure their satisfaction with the experience, their perception of the HAP team member's mastery of the content, the student's own confidence/comfort in doing new tasks online that he or she could not previously do, etc. Asking such questions both before and after the HAP experience would help more closely determine the difference that particular HAP team member is making on creating a positive experience and building the "culture of use" (D. Hegland, personal communication, October 14, 2011).

In spite of these limitations and the need for further research, as we have seen, the need for knowledge-based empowerment is essential to helping bridge the Digital Divide in rural America. Bridging this divide is essential to helping ensure America's continued vitality in many areas including the economy, education, healthcare, civic discourse, agriculture, and more. We have shown that elaboration likelihood model-based one-on-one and small group interaction offers an excellent way to deliver and build that knowledge to help close the knowledge gap.

This approach's success was evident in the United Kingdom, and continues to be evident in MIRC's current pilot programs. Building upon this model by strengthening it with grass-roots advocates (HAP team members) would not only help existing MIRC programs extend knowledge deeper into these communities for modest costs (yielding a significant return on the investment), it also helps ensure the knowledge will continue to be shared and grow for decades to come, even if MIRC funding disappears.

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Appendix A

Some other literature on this topic

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Appendix B

Work log

Date, Time Spent, Team Member, Activity, Notes

9/21/2011, 30 min, Lp, Research, Browsing and brainstorming ideas for potential topics for this project

9/21/2011, 15 min, Lp, Admin, Creating CTTTP Activity Journal spreadsheet

9/20/2011, 30, Dale, Research, Reviewing assignment and brainstorming/posting potential projects

9/24/2011, 30, Dale, Admin, Reviewing syllabus, outlining assignment requirements, corresponding w/partner re: topic

9/27/2011, 2 hrs, Dale, Research/communication, Gathering research/reviewing scholarly resources/collaborating with Lp to discuss the material and update our focus

9/28/2011, 2 hrs, Dale, Research/communication, Gathering research/reviewing scholarly resources/collaborating with Lp to discuss the material and update our focus

10/1/2011, 2 hrs, Dale, Research/communication, Gathering research/reviewing scholarly resources/collaborating with Lp to discuss the material and update our focus

10/4/2011, 1.5 hrs, Dale, Research/communication, Gathering research/reviewing scholarly resources/collaborating with Lp to discuss the material and update our focus

10/10/2011, 2 hrs, Lp, Presentation prep/reading, Layout flow for PPT in Keynote, reading CTTTP creative mat'l

10/13/2011, 3 hrs, Dale, Research, Assembling and reading scholarly research

10/14/2011, 2 hrs, Dale, Research, Phone interviews with Minnesota Intelligent Rural Communities pilot program staff

10/14/2011, 4 hrs, Dale, Research, Gathering current statistical information, reviewing scholarly research, and beginning to adjust our proposed "solution" to the social problem since MIRC is piloting our original idea.

10/14/2011, 2.5 hrs, Lp, Research, Reading research mat'l

10/15/2011, 3 hrs, Dale, Research/writing, Referencing resources, drafting CTTTP paper, and brainstorming ideas with Lp

10/15/2011, 1.5 hrs, Lp, Reading/research, Reading MIRC web content, reviewing MIRC PPT

10/15/2011, 1 hr, Lp, Reading, Theory review and selection to align with CTTTP topic

10/16/2011, 4 hrs, Dale, Research/writing, Referencing resources, drafting CTTTP paper, and brainstorming ideas with Lp

10/16/2011, 5 hrs, Lp, Reading/research, Theory review and selection to align with CTTTP topic

10/17/2011, 3 hrs, Dale, Writing/editing, Drafting CTTTP paper/reviewing CTTTP PPT

10/17/2011, 2.5 hrs, Lp, Research/design, Developing/enhancing graphics for PPT

10/17/2011, 3 hrs, Lp, Writing, Writing CTTTP paper

10/18/2011, 6 hrs, Dale, Writing/editing, Drafting CTTTP paper/reviewing CTTTP PPT

10/18/2011, 8 hrs, Lp, Writing/editing, Fine tuning CTTTP theory application, laying out/writing PPT, graphic support