Learning And Change: Community Development Revisited

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Abstract:
Virginia Tech has formed a partnership with local governments, private business, K12 and higher education institutions, and a local foundation in the Dan River Region of Southside Virginia to turn a community's imagination toward transforming its distressed economy from one based on textiles and tobacco to one based on network economy initiatives. By focusing on developing advanced network infrastructure and simultaneously building associated human infrastructure through innovative educational and research initiatives, the partners are taking aggressive steps to increase educational opportunities and attainment in areas particularly critical to network economy employment and to changing the culture of a region over time. This presentation will outline contemporary engagement strategies that could serve as a proof-of-concept for transformational activities and lead to models for complex partnerships in organizational and community learning.

The period of rapid technological innovation of the last 20 years has spawned numerous opportunities for improving the quality of life and work to people across the globe. But to take advantage of contemporary technology-driven opportunities, people and the communities in which they live must have affordable access to the tools – which includes advanced telecommunications, computers and software – and they must learn how to use and to create new uses of these tools that benefit their lives and work. In short, a citizen's ability to take advantage of these opportunities depends on how well that individual and the surrounding community weaves standard and innovative uses of new technologies into the fabric community life.

Virginia Tech's vision for itself and for the communities it serves involves working toward such technology integration with its complex of interwoven processes. When a group of local leaders from Southside Virginia asked the university to assist in their community revitalization efforts, Virginia Tech viewed as a logical next step a proposal to extend its own technology integration and implementation processes to the distressed region.   In many respects, the project has evolved into a partnership in learning with the region amid a growing complex of relationships involving local governments, private business, K-12 and higher education institutions and a local foundation in Southside's Dan River region. Early descriptions of the effort depicted an economic development project where the university would serve as a catalytic agent in the community's transformation of its economy from one based on textiles and tobacco to one based on network economy initiatives. In practice, the project's success hinges upon the extent to which a regional ethos develops that encourages and engages the community's imagination on its own behalf, in part by using powerful technological tools as interventions and other knowledge-based resources as levers for change.

Context and Challenge:
The structural problems evident in Southside Virginia today were born, in large measure, of the region's economic dependence on textiles, tobacco, and furniture for many decades. Over the last twenty-five years at least, severe economic downturns in these industries and the associated migration of jobs offshore have directly contributed to the inability of rural communities like those in Southside to compete on a statewide, much less a national or international basis. This, coupled with a dearth of interstate roadways and airports in the region has helped to isolate its citizens from modernization and innovative enterprise on many fronts – social, economic, educational, political.

Because advanced education has not been a necessary condition for employment in the region's traditional industries, many regional citizens have not historically valued education, in general, and higher education, in particular. As a result, nearly half of the adult population has only a high school diploma and a fifth have no more than an eighth grade education. Children who do complete high school successfully tend to leave for postsecondary education or work in another place, never to return.

After at least a decade or more of attempts at using traditional development strategies to overcome such structural problems, the region remained mired in decline with unemployment figures continuing to climb. Dire circumstances made worse by

recession prompted a local group to think that traditional strategies were insufficient to return the region to prosperity. Indeed, the many faces of decline were so undeniably prominent to this core leadership group that they formed a nonprofit organization called The Future of the Piedmont Foundation with aims to turn the region's fortunes around. As a local political leader exclaimed, "We have hit rock bottom!" This leadership group believed that the region had lost its intellectual, social and economic vitality and needed to introduce new approaches to productive life and work to citizens. Further, these foundation members understood that the effort they were launching would involve systemic social, political, economic and educational activities designed to encourage cultural change over many years.

One foundation member, an active alumnus of Virginia Tech, approached the university about serving as a key partner and change agent in the revitalization of the Dan River region. In accepting his invitation, the university agreed to develop a plan that the foundation leadership supported and in which they could invest their influence and other such resources as might be required over time.

Assumptions:
Several assumptions informed the university's vision for working with citizens of the Dan River region:

1. Much good work that involved familiar, time-honored approaches to economic development and citizen engagement were in force. The university would not compete with local initiatives. Rather, the institution would attempt to partner with these efforts where appropriate, but in the main would propose strategic interventions focused on life and work in a new economy.
2. Education is a vital element of any community's well being and would thus be one focus of the university's proposed intervention. An educated citizenry with its skilled labor pool remains an important ingredient in attracting new businesses and their families to a region. Still, focusing on traditional educational practice alone is an insufficient strategy for regional revitalization. Even those students who graduate and matriculate successfully in the nation's colleges and universities simply move to other places where they can find productive work. But more significant, it seemed probable that traditional educational practice, particularly in a distressed region, should be revisited in light of contemporary learning requirements for life in global societies.
3. Numerous studies and reports recognize the value of research universities to economic growth, providing evidence that investments in research have a significant impact on economic growth within the commuting distance of the investment. In turn, the university assumed that economic revitalization must include strategic investments in basic and applied research. Modern communities need to attract and retain bright, innovative people – the kinds of citizens that contribute new ideas and practices on many fronts to a region.
4. Finally, the university assumed that contemporary communities must have an affordable, advanced telecommunications infrastructure to compete in today's global economic arena. Without such an infrastructure, neither the education and

research, nor business and civic applications of a new economy might emerge and grow. Hence, a focus of Virginia Tech's proposal would be the integration of advanced communications infrastructure in strategic aspects of life and work across the Dan River region.

By adding strategically targeted research and technology infrastructure development to advanced education access, the university proposed to help the community create places that creative and innovative people and companies would want to be. Technology infrastructure and research labs are vested in place and bring entrepreneurs and innovators to use them. With technology, research and education as an integrated set of strategies, Virginia Tech proposed that the region might have the right ingredients to draw its own children back to the area, to attract new creative talent to the region, and to develop and extend it's own innovative initiatives to the community and beyond.

Many elements of the partnership that Virginia Tech forged with leaders in the Dan River region build on lessons the university learned from technology-enabled community development efforts in Blacksburg and Montgomery County, home to the university's main residential campus, as well as in nearby Roanoke, the largest city in Western Virginia. Since Virginia Tech has been involved for over 10 years with the Blacksburg Electronic Village project in its own backyard, a myriad of successful experiences informs current and emerging initiatives on campus and beyond. It is useful to observe that the founders of the Blacksburg Electronic Village made similar assumptions to those in the university's proposal for the Dan River region. Still, while the Southside proposal was not without precedent, the community development process would be focused on so severely a disadvantaged region as to involve high risks for all participants. Further, the complexity of a process physically removed by 130 miles from Virginia Tech's main residential campus suggested the need for a region-based center to encourage daily synergies between actual and potential "engines of innovation" for sustained progress and transformational change to occur.

Virginia Tech's Partnership With The Dan River Region

The university proposed re-vitalization projects for the Dan River region in two comprehensive activity areas: 1) developing an advanced telecommunications and computing infrastructure; and 2) developing the related knowledge and skill base required for a human infrastructure that could drive renewal. Under these two umbrella activities, several projects were designed and implemented:

Taking stock of community assets. University experts conducted preliminary environmental scans of businesses, schools, governmental entities and other community organizations to determine the extent to which technology was a factor in daily operations. Once a picture of existing conditions became clearer, lists of potential technology-assisted interventions were developed with aims to introduce technological opportunities to business, education and civic organizations as appropriate over time. Early tactics that surfaced on the interventions list involved obvious next steps to

working in a technology-enabled environment rather than radical interventions. For example, encouraging the use of Geographic Information Systems in regional planning efforts presented a logical first step.

Installing an advanced telecommunications network. Because Virginia Tech is involved in developing successive iterations of the Internet to enable its own access to cutting-edge teaching and research activities, the university proposed to extend advanced Internet capabilities to the Dan River region. Such access at once allows the community to leapfrog into a highly technologically enabled working environment and perhaps into a competitive economic development arena.   Incremental approaches to acquiring advanced telecommunications would doom the region to competitive disadvantage, since no business case exists for major telecommunications providers to extend advanced communications access (e.g., optical fiber providing high bandwidth capabilities) to the region at affordable rates. The university also proposed to teach local citizens to install the network themselves, where an interest existed, in hopes of beginning to develop a sustainable economy in this arena.

Working with local schools to help teachers learn how to use technology and to integrate it into curricula across content areas.   In partnership with The Future of the Piedmont Foundation and the region's congressman, Virginia Tech successfully secured a federal grant that provided the seed funding for a three-year teacher development program in the Danville Public Schools and Pittsylvania County Schools. Virginia Tech faculty specializing in instructional technology and in content specific educational domains offered workshops to scores of teachers in the region. In addition, a youth development program launched which was designed to bring disadvantaged high school students to three-week summer workshops at Virginia Tech to develop science and math abilities and to encourage college-going behaviors and preparation.   Both of these development programs are now seeking funding to sustain longer-term activities. In addition, the university joined with the Danville Public Schools to compete successfully in the federally funded magnet school program. With the aid of an $8 million grant, Danville's Galileo Magnet School offers an International Baccalaureate high school curriculum with specializations in aerospace technology, biotechnology and advanced communications technology. With NASA as a partner as well, Galileo is in its second year of operation; and its students are performing above average on state-mandated, Standards of Learning tests. Having developed its own technology-enriched curriculum, Galileo can serve as a resource for materials, programs and certain advanced technologies to other schools in the region and beyond.

Partnering with local colleges and universities to develop faculty abilities in technology-assisted teaching and learning and to conduct joint or complementary programming. Virginia Tech's award-winning Faculty Development Institute (FDI) has successfully engaged over 96 percent of the university's faculty in integrating technology in teaching.   The university extended this training opportunity to faculty at Danville Community College and Averett University, a private liberal arts institution in Danville, assisting Averett especially in creating its own faculty development and technology integration plan. Regional education leaders are currently discussing ways in which

complementary and joint technology-enriched program opportunities might occur. For example, Virginia Tech's Math Emporium, a technology-assisted, 24 X 7, advanced learning community in mathematics, could serve Dan River region students who might wish to take linear algebra or pre-calculus courses in an online environment.

Encouraging research in areas that benefit the economy of the Dan River region. Virginia Tech invited selected members of its own research faculty to visit the region and proposed basic and applied research activities that would build upon university strengths and the region's assets. Research projects which have emerged to date include advanced polymer research which complements a number of local industries; robotic vehicular research and development that takes advantage of an excellent local test track; niche biotechnology projects aimed at creating high value, horticultural crops; and e-textile development in concert with regional textile mills. Transferring these technologies into the commercial sector remains a central focus.

Encouraging leadership development across sectors of the community.   Virginia Tech has joined with other regional institutions, and in particular the University of Virginia, to offer leadership development programs to local citizens. The programs are designed to acquaint participants with the challenges facing contemporary communities, with modern solutions that productive communities around the world are developing and using effectively, with a network of colleagues regionally who will assist in revitalization, and with resources that might aid their own community development efforts.

Establishing the Institute for Advanced Learning and Research (IALR). Virginia Tech has joined with The Future of the Piedmont Foundation, Danville Community College and Averett University to create the IALR, a visible symbol of and fulcrum for revitalization activities. This institute serves as a demonstration site and as catalytic and collaborative agent in bringing technology-enriched programs and research to the region from Virginia Tech, other colleges and universities and from business and industry. The institute will host advanced learning programs focused on preparing people for innovation economy jobs. Indeed, institute plans call for it to be an "engine of innovation" by having a small cadre of resident faculty, research scientists and graduate students focused on strategic regional projects and with connections to Virginia Tech and other major research universities. It will also join with regional schools, governments, chambers, and other entities to create conditions that support economic transformation. The institute will have a high-tech conference center with a focus on making Southside a destination and on building strategically upon the region's attractions. One of the first orders of business in launching the institute involved hiring two dynamic young leaders to spearhead the endeavor.* They direct institute activities and drive planning and implementation processes in the community, at the same time remaining linked to resources that the university can bring to bear on revitalization efforts. With community, state and federal support, other faculty and staff members are joining the institute's innovation team. Funding for the $20 million facility was provided through support from the Tobacco Master Settlement Agreement ($15 million) and the federal Economic Development Administration ($5 million). Seed operating funds have been provided

through private support and the Tobacco Indemnification and Community Revitalization Commission.

Seeking linkages with the Research Triangle in North Carolina. Danville and Pittsylvania County are located on the border between Virginia and North Carolina. At the farthest point in the Research Triangle area of Raleigh, Durham and Chapel Hill, Danville is only a 90 minute drive, at the closest point, 50 minutes. Traditionally, this Southside region of Virginia has looked north to its home state for development opportunities. But with its close proximity to North Carolina's Research Triangle and its access to advanced telecommunications, the Dan River region is ideally suited to serve as a bedroom community and economic partner for its neighbors to the south. Whether for spaces for living or telecommuting, driving the short distance from the Research Triangle to Danville affords highly reasonable real estate values for land as well as well-preserved Victorian mansions. This setting provides a good test of the proposition that neither distance nor borders matter in new economy enterprises.

Learning Lessons, Creating Models:
The Dan River region is not unlike many others across the country where economic dependency on manufacturing and agriculture has significantly eroded community viability and where the infrastructure and people are poorly equipped to embrace a new economy. Land-grant and other higher education institutions have long histories of community outreach activities. Yet even universities' outreach efforts are in flux as they seek to adapt to contemporary social, political and economic circumstances. In recent years, the Kellogg Commission has called for land-grant institutions to migrate their activities from one-way outreach to two-way engagement partnerships with communities. As Virginia Tech works toward an engagement model for the 21st century, many of the university's strategies in the Dan River region could function as proof-of-concept initiatives that might suggest models useful in other communities.

In proving concepts and designing new models for potential replication, the learning curves are steep for all participants, within higher education and without. Innovative community-building or capacity-development activities are, by definition, risk-taking ventures and not for the faint-hearted. Anxiety levels can rise precipitously and without warning in any quarter of the enterprise – from university to community – because of the magnitude of work involved, the unfamiliarity of aspects of the work, the need for inclusive approaches to community development work, the politics of getting work done, the resources required, and more. With this in mind, the following discussion outlines a few of the more salient observations about community development and learning in Virginia Tech's engagement with the Dan River region's development process to this point:

Learning Anxiety. Transformational learning at an individual, organizational or community level is difficult and rarely occurs , except by coercion, unless desired, indeed invited, by the learner(s). Edgar Schein's research on transformational learning suggests that despite much press to the contrary, very few institutions are truly learning organizations. "Learning and the change that inevitably accompanies it is a complex

process, he warns, often more a source of frustration than achievement for groups and for individuals" (Coutu, 2002, p. 100). He says that radical re-learning induces anxiety and guilt in most people. For individuals and for organizations, if re-learning is desired then it is necessary to find ways to provide safe environments in which to experiment with change, without people and the organizations they cherish loosing face. Schein also says that it is important to distinguish between forcing people to learn something they see practical reasons to accept – like learning new computer skills – and learning something that is questionable to them or beyond their comprehension at a particular moment. If people accept the need to learn, then such tactics as training, coaching, community support, communication strategies that provide feedback on progress, and incentive programs will usually assist the change process (Coutu, 2002). In this case, the practical, though difficult, intervention of integrating technology offered the community recognizable reasons for change. In turn, as catalytic agents – whether universities or other entities (i.e., evidence exists suggesting that regional corporations can serve this role as well, see Mayer, 2003) – fully engage a community in the give and take of change, then partners can together develop training, support and communication programs across community sectors and across organizational boundaries.

Impetus for Change. Transformational community change may be motivated by external factors, but rarely occurs unless there are enough citizens inside of the community who want change, are willing to work for it personally and who know how to secure or leverage the resources required for change. Much of the literature on substantive change suggests that external factors may either inspire or force people to think about the need for change, perhaps even moving them to the point of proposing directions. But unless a critical mass of community members coalesce behind an idea to exert internal pressure for substantive change, a transformational learning process is not likely to get off the ground. Internal advocates need to be people who are willing to work with neighbors, friends and colleagues to bring about change and who will themselves demonstrate change in various aspects of community life. Couple such internal efforts with appropriate resources and transformational change is more likely to take root. Without these three components – external forces, internal pressures for change, and resources for change, piecemeal, incremental adjustments to the status quo will be the order of the day and basic community or organizational structures will continue to conduct business as usual (Toffler, 1985). In this case, The Future of the Piedmont Foundation served as the first critical internal force for change; and they have since been joined by numerous others as the effort gains momentum, breadth and depth.

Multiple Approaches to Learning. Transformational change implies that much teaching and learning will occur for change to take place. Using approaches to teaching that are attentive of and appropriate to a community's learning styles are critical. The literature on constructivist, experiential, service-learning and organizational learning suggests viable options for engaging in community-based activities. Harry Boyte (2002) says that successful civic learning organizations stress learning as productive work aimed at community problem-solving and capacity-building. Boyte further suggests that an empowering, people-oriented process will build public relationships across rigid boundaries of old.

While accounting for the histories and cultures of places where change is desired, learners must also consider larger public environments that would influence any change. Every community is unique, having its own cultures, histories, identifying characteristics and idiosyncracies. Still, despite the uniqueness of a particular place, modern advances in transportation and communications have created an environment that requires change agents and civic activists alike to pay special attention to multiple contexts of change. These political, social and economic contexts extend far beyond a particular community, yet must figure in visible ways in meeting immediate and long-term goals for change (Boyte, 2002). For example, developing communities today usually understand the need for a robust telecommunications infrastructure and may be willing to build it themselves; but they do not always see the need to link their infrastructure with others across a region or the world, apparently fearing some loss of competitive advantage. Here, communities might benefit from exposure to notions of globalization as an elemental ingredient of 21st century community endeavors. In turn, creating valuable local services – in business, education and government -- that might be provided electronically to other places may help combat isolationist tendencies or other defensive tactics that limit opportunities for learning and exchange.

Technology As Catalyst. Modern technologies are tools, however powerful, pervasive or necessary for modern commerce they may be. Developing human relationships that are focused on change, developing human capital that responds to new challenges, developing new and sustained alliances that may cross traditional community boundaries and other kinds of relationship-building activities are at the heart of community change. The technology, if thoughtfully employed, can serve as intervention implements and motivational objects on behalf of social, economic and political change. Indeed, many people seem to accept the need to learn about new computing and telecommunications technologies; and once they consider what the technology allows them to do differently, it can inspire them to re-think an activity or enterprise – social, economic, or educational. From the perspective of profit-making and non-profit entities, beyond being a useful wedge in one's toolkit for change, modern technologies can also be disruptive because they change the ways people do their work, interact and more (Christensen, 2000). As such, disruptive technologies may be dismissed because they are unfamiliar, threatening or seemingly unproductive according to traditional measures. Again, change agents must attend to aligning human and financial resources with community processes for disruptive technologies to gain a foothold.

It follows that as a community's familiarity and ease in using technology increases, broader and deeper conversations about technology's influences on life are also in order. Sherry Turkle suggests that "[c]omputer software changes how architects think about buildings, surgeons about bodies, and CEOs about business. It also changes how teachers think about teaching and how their students think about learning" (Coutu, 2003, p. 44). In all cases Turkle says, it is important to understand at a deep level the personal effects of technology in order to make it serve people and their communities well.

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Campaigns For Change. A vision of the change desired is essential, as is the constant communication of it.   In the past, literature on change talked of un-freezing old structures, reconfiguring them to desired forms, and then re-freezing them for some period. This model posited a static quality to institutional change, not particularly descriptive of the dynamic environment in which many think transformational learning occurs today. Recent descriptions of substantive change suggest a campaign metaphor or model is more appropriate to contemporary change processes. In this model, change agents employ three different but well-connected campaigns, with all of the liabilities and assets inherent in campaign models: 1) They use the tactical elements of political campaigns, creating coalitions to guide and support initiatives. 2) They use elements of marketing or promotional campaign to explain the vision in understandable terms, to stay in touch with and provide feedback to stakeholders and constituents, and to avoid being pegged as out of touch or social engineers. 3) Finally, they employ various tactics reminiscent of military campaigns, securing lines of supply and capturing important beachheads to keep pilot efforts from stalling. Most important, modern change agents keep these campaign elements in constant motion, dynamically re-engaging appropriate tactical or strategic elements as needed (Hirshhorn, 2002).

Community Development Revisited

Developing communities for a new age is a common expression in contemporary engagement activities today. But the scale and scope of learning required by all who participate in such development activities suggest that much more is at stake than adding a few new smokestacks to a horizon. In contrast, a new horizon may be coming into view, with contemporary community developers serving as designers, architects and builders of its unfolding landscape.   In this view, today's vanguard of change has enthusiastic innovators and anxious survivors alike learning over a lifetime to create new structures and processes that will benefit their re-envisioned vistas of life and work.

In modern times, education institutions have often acted as important vehicles for social, political and economic progress. Yet today, some argue that the social conditions in which education has traditionally occurred are changing beyond recognition. In their examination of the forces of change in society today, Jarvis, Holford and Griffin (2003) suggest that the risks, illusions and ambiguities of a postmodern world call for replacing traditional notions about education, a vestige of modern societies where stability, confidence and progress were the social order of the day, with a new concept of learning over a lifetime. This argument parallels and reflects provocatively on discourse in other research and practice and on the community development activities mentioned here: businesses, governments, universities, and communities have publicly stated that they are setting their sights on difficult, complex, and sometimes illusory aims. Furthermore, the forces of change influencing these efforts are unprecedented in modern times.

Jarvis, Holford and Griffin (2003) list several forces of change confronting societies today, noting such influences as globalization processes that are social, cultural and not just economic phenomena; shifts in work toward providing services and away from manufacturing mass-produced goods, with a concurrent disappearance of the job-for-life; and the commoditization of style, culture and knowledge with various forms of

media replacing production as a basis of social life. They see these influences, in which new technologies figure significantly, and others as harbingers of the lifelong learning required to realize transformational shifts that adjust to such influences. It remains to be seen how a comprehensive view of any emerging landscape might look if mainstay institutions in communities across the nation and beyond fully engage these contemporary forces. Histories are better suited to capturing the warp and woof of such shifts, whether sweeping or limited.

For the present, many communities are seeking or engaged in revitalization efforts in order to remain part of a landscape of social, cultural and economic activity. Many of the institutions that have traditionally constituted and supported such communities are either under fire or on the cusp of change themselves. For community development partners – universities, corporations, chambers of commerce, local governments, schools, nonprofit foundations -- it seems that the time for two-way engagement processes has indeed arrived, as many good learners are required for the tasks at hand.

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