A Case Methodology of Action Research to Promote Rural Economic Development: Implications for LIS Education

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This article explores a case methodology of action research in Tennessee and investigates how library and information science (LIS) educators can extend their social responsibility to the state's small businesses and rural public libraries. Insights are drawn from a planning grant that was recently awarded by the Institute of Museum and Library Services to the School of Information Sciences at the University of Tennessee. The case project involved a process of conceptual model development to toolkit blueprint design in implementing action research in order to address a practical concern, develop a tangible resource, and promote positive changes in praxis built on local partnerships and collaborations. It served as a pilot test-bed to propose strategies for similar rural settings in the future. Findings fill gaps in the "how-to" of operationalizing action research to inform LIS educators of how they might extend the impact of their traditional information-related teaching-research-service toward economic development and economic growth.

Keywords: action research, case methodology, economic development, LIS education, rural public libraries, small businesses, Tennessee

Introduction

What role can library and information science (LIS) education play in economic development, and how can they support small businesses and rural public libraries while engaging with them in a specific regional community and cultural setting? This article explores answers to these questions by examining an action research project in Tennessee and investigating how LIS educators can extend their teaching and learning practices and social responsibility to the state's small businesses and rural public libraries. Insights are drawn from experiences during a planning grant entitled "The Role of Rural Public Libraries in Small Business Economic Development in the Appalachian Region: A Case Study of Tennessee" (PLSB-TN) that was recently awarded by the Institute of Museum and Library Services'

National Leadership Grants for Libraries (Research Category) (October 2014–September 2016) to the School of Information Sciences at the University of Tennessee.[1] PLSB-TN served as a pilot case study and test-bed review to develop tactics for the larger Appalachian region and similar rural settings in the future. Drawing upon interconnections between the three traditional pillars of the American academy (namely, teaching, research, and service) to meet the needs of local constituencies in the PLSB-TN represented progressive community engagement efforts in LIS education to justify taxpayers' support of public land-grant universities (Mehra & Robinson, 2009). It also nurtured intersections in these three areas in order to inform, extend, and "feed" each other beyond isolated and "closed-box" categories seen in the past and toward making meaningful community-relevant contributions (Lee, Chancellor, Chu, Rodriguez-Mori, & Roy, 2015).

KEY POINTS

- Action research in the PLSB-TN extended LIS educators' social responsibility to Tennessee's small businesses and rural public libraries.

- It addressed a practical concern, developed a tangible resource, promoted positive praxis changes, and built on local partnerships.

- LIS teaching implications include curriculum design, classroom integration of small-business information, and appropriate training of professionals.

Potential directions discussed within a research and grant context and applied to teaching and learning include curriculum design, classroom integration of appropriate small-business information content areas based on the needs of small businesses and rural public libraries, and the training of rural library and information professionals to further small-business service delivery and resource development. In the PLSB-TN, such practices can be assimilated into the LIS classroom to assist future rural library and information professionals to engage with the small-business community with the aim of addressing Tennessee's history of poverty and economic despair (Cooper & Terrill, 2009; Fisher & Smith, 2012; Mehra, Black, Singh, & Nolt, 2011; Mehra & Gray, 2014). Experiences in Tennessee can possibly help develop analogous ways for other rural environments confronting grim socio-economic and socio-cultural conditions.

Action research and LIS education

Action research is an under-used and unacknowledged approach in LIS education (Mehra, 2004) and has drawn recent attention within the need for a diversified research methods curriculum (Luo, 2017). As a methodology, action research (or participatory action research) starts from the everyday concerns of underserved populations (Brown & Rodriguez, 2009); it extends the goals of academic scholarship and social science practice

to develop meaningful solutions that attempt to change the existing challenging circumstances (Rapaport, 1970). Action research has emerged as a cooperative collaboration between various stakeholders based on jointly agreeable ethical principles communicated and practiced in the enactment of specific activities and processes (Kemmis & McTaggart, 1988). As a tool, action research has been well used in the "doing disciplines" such as education, social work, health care, counseling psychology, community development, and others, where the focus is on outcome-based results to promote progressive change (Stringer, 1999).

Action research, however, has seen limited adoption and use in LIS education (Mehra, Bishop, & Partee, 2016a). This is surprising, since many in our diverse professions take pride in their service-oriented missions, user-centered design, attention to local needs, and application of precision in their work enactment (Maack, 1997; Mehra & Sandusky, 2009), traits that are central to action research (Mehra & Rioux, 2016). Possible reasons behind this perceived neglect might include an internalization of a biased cultural and historical inheritance, whether in traditional librarianship circles or in the privileged world of the LIS educator/researcher steeped in academic discourse (Cooke & Sweeney, 2017). Outdated LIS practices that were internally focused and/or system-centric reflected a "tunnel vision" (Wiegand, 1999) that has shifted only during the past few decades toward making our users/patrons/customers/clients (variously defined) the focus of attention in the design of information systems and information services (Dervin & Nilan, 1986; Savolainen, 1993). Maybe a lack of adoption of action research practice and terminology in LIS is also due to a perceived resistance to bridge the LIS practitioner–educator domains (i.e., theory–practice realms) across the library science and information science boundaries, a struggle that past and recent scholars have long recognized (Turcios, Agarwal, & Watkins, 2014). For example, we still might find several library practitioners not heavily involved in research (Powell, Baker, & Mika, 2002) having some distaste for the term and its meanings in traditional practice-dominated settings. These might be because of a limited understanding and misperceptions of research as a "dirty word" unconnected to the constructed realities of the praxis realm (Chu, 2007). On the other hand, we also have occasionally encountered an inability (or disinterest) among information science researchers, holding vainly to positivist paradigms in their experimental laboratories and in their testing of information retrieval systems, in applying their design theories and knowledge to library practices, tangible service outcomes, and direct praxis-based results (Crowley, 2004).

A lack of action research in LIS education might also be related to pressures on educators/researchers to "publish or perish" in journals that expect research methodology that is valid, reliable, and duplicable, and inherently action research does not typically fit that mold (Kurmis, 2003; Sanderson, 2008; Seglen, 1997). This is symptomatic of the malaise

more deeply rooted in the problematics emerging from a critique of the unhealthy economics of scholarly publishing and related transformations of the institution of higher learning solely as a business enterprise (Gans, 2017; Regazzi, 2015; Shiflett, 2015). Over several decades, administrators in LIS education and across the academy in Research I universities, a category used by the Carnegie Classification of Institutions of Higher Education ("About Carnegie Classification," n.d.) to identify American universities that engage in extensive research activity, have created tenure and promotion policies to force faculty to publish, as evidence of their research productivity, in high-impact journals. These journals are made accessible only through the very products (e.g., databases) that vendors are selling the institutions to which the educators/researchers belong (Mc-Guigan & Russell, 2008; van Dalen & Henkens, 2012). No wonder action research has been missing (or selectively adopted) in LIS education and other settings where vendors, publishers, and their products have also not recognized or tapped into the potential demands and value of such work.

But this reality might be ready to change (Anderson, 2017), even if not necessarily for the right reasons. Today, we are observing another trend worth critically reflecting on. Land-grant universities and colleges have been under tremendous recent demands for accountability to show the impact of their work on local and regional communities as evidence of the relevance of their pursuits to rationalize taxpayers' support and also to convince state legislatures to expand their funding support (Berman & Paradeise, 2016; Mehra, 2009): "Pressured by growing student interest in learning that is focused on real-world problems, by policy makers who view universities as catalysts for economic and social development, and by donors who want to see their contributions have impacts, universities have become increasingly involved in community outreach" (Wiewel & Knaap, 2005, p. 1). This has led to a lip-service use of terms such as social justice, community engagement, diversity, and action research (Pateman & Vincent, 2010) that are used as mere buzzwords providing a "chitter-chatter" in the public institutions but in reality do not lead to any substantial change in status-quo marginalizing conditions (Sandell & Nightingale, 2012). If we look at the issue more constructively, maybe the limited prevalence and use of action research as a legitimate approach in LIS education is also the result of a limited understanding of details in its enactment and implementation (Wallace & Van Fleet, 2012). The "how-to" of action research and specific examples or effective practices of its operationalization are missing, so LIS educators are not being informed of the ways in which they might be able to adopt it as a tool and extend the impact of their traditional teaching-research-service obligations that form the backbone of judging the effectiveness of their academic pursuits.

The development of the action research activities in the PLSB-TN might serve as an opportunity to fill such select gaps in the theory and practice of the LIS professions (including LIS education).

From its conceptual model development to toolkit blueprint design in the process of implementing action research, to further community engagement between small businesses and rural public libraries in Tennessee, the salient aspects of the PLSB-TN have focused on addressing a practical concern and developing a tangible resource that is of use in promoting positive change in praxis built on local partnerships and collaborations (Mehra, Bishop, & Partee, 2016b). The guiding spirit of action research shaping the realization of the PLSB-TN activities, tasks, and process has included devolution, attempts to integrate bottom-up practices, and involving a collective voice in decision making in order to transform the nature of service delivery and resource development and to redefine rural public library institutions and their relationships with the small business community (Mehra, 2006).

The context of Tennessee

Tennessee is a landlocked state located in the southeastern belt of the United States, ranked the 36th largest and the 16th most populous of the 50 states. The US Census Bureau (2010) identified 66 of the state's 95 counties as rural, with a population of fewer than 50,000 residents. According to the Tennessee Department of Health (n.d.), the state's rural populations experience unique challenges in health and economic and community development, with "fewer service providers and resources for jobs, health care and community services" for at least 50% of its residents living in the 38,330 square miles of rural Tennessee located in approximately 70 of its 95 counties. Tennessee also forms part of the Appalachian Region, a 205,000-square-mile area following the spine of the mountains with the same name (Appalachian Regional Commission, n.d. a), where in August 2017, out of its total 420 designated counties, 84 were distressed, 115 were at risk, and 208 were transitional (Appalachian Regional Commission, n.d. b). According to the Commission's report "County Economic Status and Number of Distressed Areas in Appalachian Tennessee, Fiscal Year 2017," out of Tennessee's 52 Appalachian counties, 10 are economically distressed, 23 are at risk, and 37 contain 119 economically distressed areas (Appalachian Regional Commission, 2016). Recently, we saw a sliver of economic hope for the state in the positive trends reported, for example, by the US Bureau of Labor Statistics (2017a), which indicated a huge drop in Tennessee's unemployment rate between January and July 2017, from 5.4% to 3.4%, while the national unemployment rate for the same period fell from only 4.8% to 4.3% (US Bureau of Labor Statistics, 2017b). In 2015, for the second consecutive year, Tennessee won a top ranking for "boosting jobs and capital investments through company relocations and expansions" (McGee, 2015).

To provide greater societal and community-wide support to continue moving forward in economic recovery, Tennessee's rural libraries (similar

to those around the country) have a tremendous opportunity and compelling responsibility to become proactively involved in becoming drivers to serve economic and civic growth (Mehra, 2017). In existence since 1939, the Tennessee Regional Library System (TRLS) forms part of Tennessee State Library and Archives (TSLA) (2017a) and consists of nine multi-county regional networks geographically defined and applicable to both small businesses and public libraries serving 211 small and medium-sized public agencies throughout the state. The Tennessee Code Annotated, Title 10, chapter 3 (Law Server, 2017), stipulates that state assistance is received by local public libraries as the TRLS enhances local resources and revenues mandated in the creation of public libraries. Some 171 non-metropolitan member public libraries and 41 branch libraries in 91 counties in the TRLS reciprocated a commitment in 2014 to "support the allocation of locally appropriated public funds at a level not less than the amount appropriated in the last fiscal year, as well as the expenditure of locally appropriated funds at a level not less than the total amount expended in the last fiscal year" (Sherrill, 2014, p. 8). The TRLS mission to "make libraries better" is delivered through (1) assisting local governments and public libraries in the development and improvement of public library services; (2) the selection, maintenance, and use of library technologies; (3) preparing and providing supplementary library materials and digital content for public use; (4) facilitating the sharing of resources between libraries through a delivery system; (5) opportunities to participate in shared automation systems; and (6) continuing education to local library staff and trustees (Tennessee State Library and Archives, 2017b).

Rural libraries can potentially play an important role in promoting regional identity and the sustainable economic viability of the Appalachian region (McPherson, 2014; Mehra & Singh, 2015; Real, Bertot, & Jaeger, 2014). They are extending their effort to meet the challenge. For example, Tennessee's regional libraries and others are forging "out-of-the-box" collaborations with educational centers, research institutions, the workforce industry, and chambers of commerce in sharing resources and engaging in joint projects to generate greater impact and promote economic growth and cultural development in the region's dispersed communities (Mack, Ruffin, & Barajas, 2014). For example, the Limitless Libraries program in Tennessee entered a new phase in the partnership between the Nashville Public Library (NPL) and the Metro Nashville Public Schools (MNPS) in July 2017 to continue "offering MNPS educators and students in grades 3–12 access to NPL's materials" with migration to a shared integrated library system and technical bridge (Barney, 2017). The PLSB-TN is a unique example of a community partnership between LIS educators and regional libraries, and small-business representatives were instrumental in the effective enactment of grant activities to generate a positive impact for the project. PLSB-TN partners included the Blount County Public Library, the Clinch River Regional Library, the Holston River Regional Library,

and the Sevier County Public Library System. Representatives from these public library agencies and small businesses formed the PLSB-TN Advisory Board, which assisted in project conceptualization and implementation planning, as well as in the specifics of developing data-collection protocols, collecting data by distributing the research instruments to small businesses and public libraries in their regions, and identifying research interview participants. Community partners were selected for their existing experience with small businesses in their respective regions. For example, the Blount County Public Library, along with several other libraries in the Ocoee River Regional Library system in East Tennessee, is a significant supporting organization for the Blount Partnership (2017), provides a wide variety of programming for adults in workforce development training, and partners with the local department of labor career coach and small businesses in the region. Similarly, the Sevier County Public Library System enjoys numerous mutually beneficial partnerships with local small businesses, including assisting businesses with space for planning and development meetings, access to technology, and a variety of workshops through its business center, such as computer classes and résumé preparation and job-search help. It partners with multiple small business owners for programs such as its "Uniting Cultures Festival" and "Civil War Event." These are annual multicultural programs held at the library that bring citizens, library staff and services, community service organizations, and local businesses together to showcase the variety of cultures in the community through arts, literature, food, music, and performance. The TSLA assisted in distributing the PLSB surveys and identifying interview participants. In addition, the Tennessee state librarian, Chuck Sherrill, provided a strong letter of support for the grant proposal.

The context of the PLSB-TN

The PLSB-TN involved collecting quantitative and qualitative feedback based on the needs, expectations, and experiences of small businesses and rural public libraries in Tennessee. Research included preliminary planning activities, analyzing existing needs and feasibility, solidifying community partnerships, and developing initial work plans, blueprints, and the prototype for a strategic action plan of a public-library small-business toolkit to strengthen collaboration between various stakeholders involved (Mehra, Bishop, & Partee, 2016c). The goal of the PLSB-TN was to research the role of rural public libraries in Tennessee's economic development based on an analysis of the requirements and experiences of small businesses and rural public libraries. Its objectives included collecting feedback from Tennessee's small businesses about their information needs and how rural public libraries have assisted these agencies, documenting the perspectives of Tennessee's rural public-library representatives about the services and programs they provide to small businesses, and proposing a blueprint design to inform the development of a public-library

small-business toolkit based on the data collected from both the stake-holder groups.

Action research in the PLSB-TN

The PLSB-TN action-research output deliverables included the following:

- development of a user-/use-based model to represent the information context and perspectives of Tennessee's small-business representatives to refocus library services and resources on the information needs and information-seeking experiences of the stakeholder community (Mehra, Bishop, & Partee, 2017c);
- quantitative survey data collected from a total of 120 small business representatives in Tennessee concerning their library information services and resources use (Mehra et al., 2017c);
- quantitative online survey data collected from 78 rural public library staff in Tennessee about their existing roles and the potential role they can play to support small businesses in the state (Bishop, Mehra, & Partee, 2016);
- qualitative focus-group and interview data collected from Tennessee's 25 public-library small-business liaisons about their experiences and perspectives (Mehra, Bishop, & Partee, 2017b); a representative portion of a blueprint design for the *Public Library Small Business Toolkit* with prioritized categories of some components was also provided based on the qualitative data collected;
- a gap analysis of the perspectives of small businesses and rural librarians in Tennessee was conducted to suggest guidelines to develop a blueprint for the *Public Library Small Business Toolkit* (Mehra, Bishop, & Partee, 2017a).

In addition to the output contributions, these research deliverables also represent a conceptual deconstruction of the PLSB-TN action research project to highlight its important underlying methodological strategy. Select PLSB-TN traits that connected to specifically reflect action research integration in LIS practice (Mehra, Bishop, & Partee, 2016b) included involving and collecting feedback not only from LIS-related stakeholders (i.e., the rural public librarians) but also from representatives of the small-business community throughout the grant activities based on a systematic conceptualized understanding (i.e., user-/use-based model); using mixed methods (i.e., quantitative and qualitative) to provide complementary data sets (Johnson, Onwuegbuzie, & Turner, 2007) that could be compared (i.e., gap analysis); and focusing on developing a tangible deliverable from the analysis (i.e., the blueprint design of the *Public Library Small Business Toolkit* visualized in Figure 1).

The blueprint design of the *Public Library Small Business Toolkit* is based on the user-/use-based model (Mehra et al., 2017c) that helped explain who the small-business user is in order to determine their information
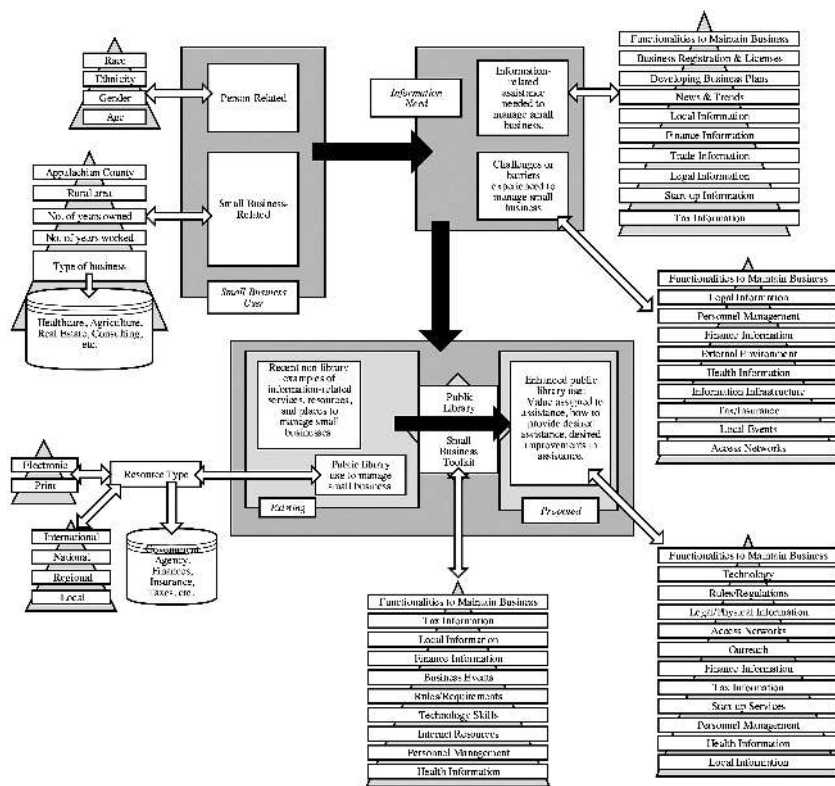
Figure 1: Blueprint design of the *Public Library Small Business Toolkit* developed in the PLSB-TN

need, which in turn shaped their existing and proposed information uses. The model also informed the development of the data-collection instruments by shaping the questions asked in the online surveys (quantitative tool) and during the interviews and focus groups (qualitative tool) with both small-business representatives and rural public librarians. As a blueprint design, the framework of the *Public Library Small Business Toolkit* serves as a conceptual structure of a database that would have to be developed in order to implement the toolkit information resource. It ties together conceptual domains and characteristics related to the user (person-related and small-business–related), their information needs (challenges and assistance needed), existing library and non-library–related use, the desired components of an ideal resource, and their proposed public library use. Subcategories of these domains that emerged during the process of conducting the gap analysis between the perspectives of the two groups might become the fields/elements of a search engine that could humanize the interface of the "behind-the-scene" database. Related

to the information need and information use of the small-business user, key common information categories and subcategories searchable based on business type included functionalities to start and maintain a small business (everyday information); finance management, taxes, and insurance (economics); legal information, registration, and licenses (rules and regulations); news, trends, and events, especially local (happenings); technology and computers (information infrastructure); and health and personnel management (human resources).

Furthermore, to implement a portion in the reiterative design process in action research, we received a 2016–17 Community Engagement Incentive Grant entitled "Small Business Community Information Exchange at the Blount County Public Library in East Tennessee," awarded by the Office of Community Engagement and Outreach, University of Tennessee (2016), to host, in November 2016, 30 representatives (e.g., government officials, bankers, chamber of commerce/economic council members, library staff, etc.) who discussed operationalizing design issues based on the toolkit blueprint so that rural public libraries could develop the resource for small businesses in the future.

Figure 2 visualizes the key action research components in the PLSB-TN. It conceptualizes and connects the various pieces together and lists implications for LIS education. The rectangles with solid line represent the people-/product-related entities, while the elliptical shapes represent different methods that were used in action research in the PLSB-TN project. The two rectangles in bold dotted line at the bottom and top of the figure are indicative of the start and end of the project experiences, broadly construed, while the rectangles with dashed lines indicate the components (or future direction follow-up) of the main entity to which they are connected. The uni-directional solid arrows indicate the linear causation effect in the PLSB-TN process, while the unfilled arrows relate the use of the method with the stakeholder group and the dashed arrows represent the entity components or entity future direction follow-up.

The emerging gap analysis between feedback collected from the two stakeholder groups through the quantitative and qualitative strategies (i.e., online surveys and interviews/focus groups) identified proposed actions and an initial draft of a *Public Library Small Business Toolkit*. To ensure that the product developed from the data collected was relevant and valid, we shared a draft with key players in the community during an information-exchange event at a local public library in order to refine the blueprint design and brainstorm issues related to its operationalization and implementation (an activity beyond the scope of this article that will be pursued in the future). Implications for LIS education that emerged from the finalized version of the toolkit blueprint design are presented in the next section.
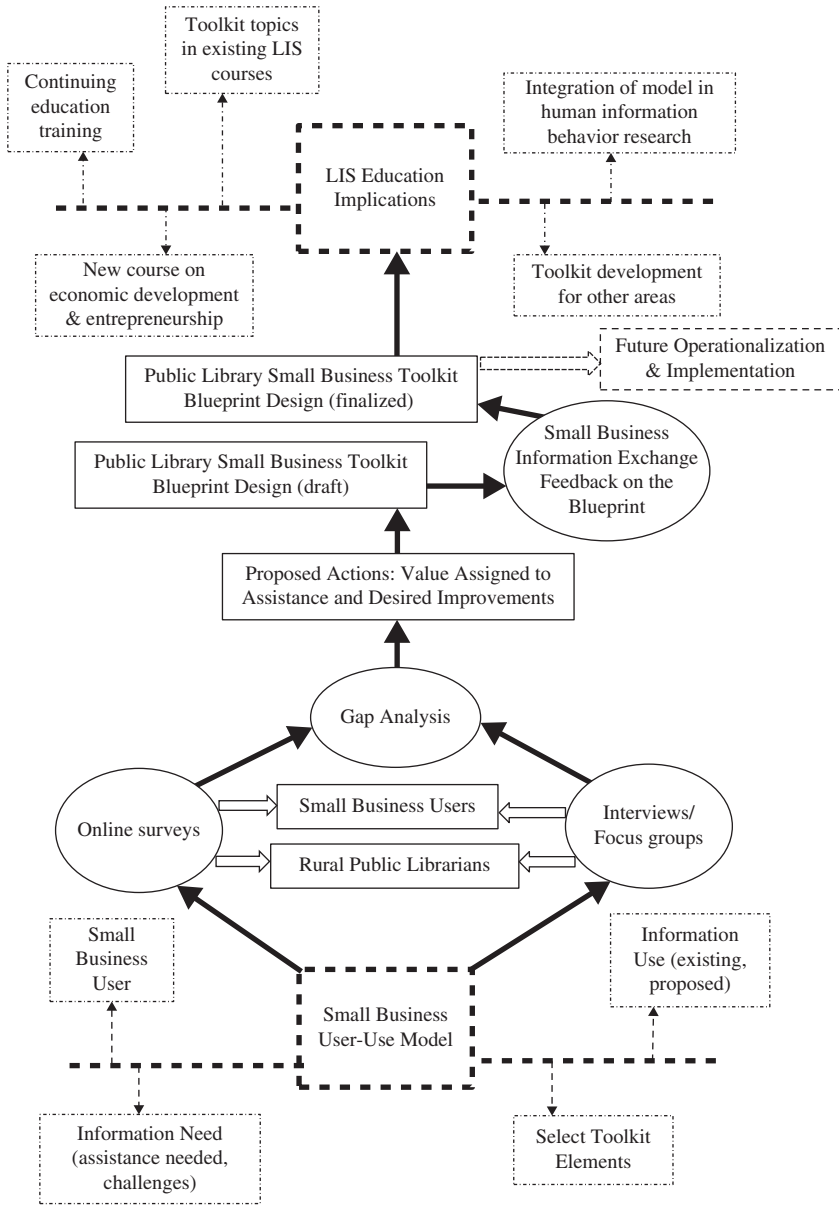
Figure 2: Key action research components in the PLSB-TN and implications for LIS education

Implications for LIS education

The top of Figure 2 shows five work-related implications for LIS education based on the PLSB-TN experience that can be categorized into the following domains of action required for positive growth.

1. *Building of curricula*: Be it in LIS education or other disciplines, the following are possible direct contributions of the PLSB-TN to the building of curricula:
   - the integration of specific small-business information categories and topic areas into existing LIS courses on small-business information and/or rural library service management, in addition to content on the toolkit development process and the structure, organization, and development of the blueprint design;
   - new graduate course on economic development and entrepreneurship cross-referenced with the business school, education, university outreach extension, and so on.
   - continuing education opportunities for LIS and other professionals through tailored small-business–related training in the emerging area of small-business service planning and practical librarianship in the LIS and business curricula;
   - training rural librarians in local small-business information and provision of local content to make answering location-based questions easy.
2. *Development of information research methodologies*: Showcasing the methodological dimensions of adopting action research in the case documentation of the PLSB-TN in this article can provide LIS educators with insights and strategies to replicate select dimensions of the process as applicable. It would mean making adjustments and extrapolating to reflect the contextual characteristics of their own research projects in terms of the information needs of particular underserved populations, geographic regions, expected information-related responses, existing and potential collaborating information agencies, and/or other specific aspects of the project (e.g., time commitment, available finances, etc.).
3. *Growth of learning in human information behavior theory*: The user-/use-based model of understanding connections between the information users, their information needs, and their information uses as developed in the PLSB-TN adds to the learning of human information behaviors. This can be applied to represent the information context and perspectives of other populations toward "grounded-up" design of culturally relevant information systems and services.
4. *Toolkit development for other areas*: Other agencies involved in information management and organization and information resource development, such as government departments, the

telecommunication industry, companies and businesses, non-profits, and so on, can utilize and implement the toolkit design to provide better services to their diverse stakeholders. For example, the lead author of this article delivered a presentation entitled "Digital Inclusion of Rural Libraries to Promote Effective Broadband Use and Further Economic Growth & Community Development in the Southern and Central Appalachian Region" in April 2017, for a BroadbandUSA webinar on Broadband Adoption and Digital Inclusion in Rural Communities (BroadbandUSA, 2017).

Conclusion

The PLSB-TN provided LIS educators with a research opportunity to engage with underserved community stakeholders and to serve as bridges to facilitate a gap analysis as a mode of comparison of the documented perspectives of the two groups. It allowed them to make connections both outside (i.e., engaging with small businesses) and inside the LIS community (i.e., public libraries) in an underserved area (i.e., rural Tennessee). The importance of action research as a valid approach emerged owing to the geographical context of rural Tennessee and its disenfranchising past as well as the recent economic challenges.

To meet the challenges in the twenty-first century, public libraries are getting out of their comfort zones and into their local and regional communities to engage with various stakeholders (Mehra & Davis, 2015; Mehra & Hernandez, 2016). This article calls for LIS educators and rural public libraries to work together to support small-business economic development in different parts of the United States (and the world) that have been economically challenged, traditionally and chronically, by their history and culture. The case study offers possibilities for extending key lessons to other similar socio-economic areas beyond Tennessee. Insights can potentially help develop similar efforts in other rural areas facing difficult socio-economic and socio-cultural circumstances. Further, the development of culturally relevant community information systems and services are extremely important in any context, all the more with regard to economic growth and economic development in rural environments. LIS educators can extend their roles in this regard by engaging with community stakeholders outside their traditional bastions, deepening intersections between their teaching-research-service obligations in a community context and shaping future professionals to become more receptive and open to the scope and possibilities of such practices. Action research provides one positive approach toward this agenda.

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Endnotes

1. See http://scholar.cci.utk.edu/plsb-tn.