Can a First-Year School Librarian be a Technology Leader?

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**Abstract**

Cooperative inquiry (CI), a form of qualitative research used in community building, has not been used with school librarians or in many schools. Through the lens of Formative Leadership Theory, the researchers studied the abilities of three new school librarians trained in CI and leadership to engage in collaborative problem solving for technology-related school challenges. Due to internal and external factors, participants experienced various levels of success in the CI process and gained positive recognition from their colleagues for exhibiting traits of formative leaders.

Keywords: school librarians, cooperative inquiry, technology integration, formative leadership

Can a First-Year School Librarian be a Technology Leader?

Technology integration is an increasingly crucial element of teaching and learning that requires school-based leadership in order to be consistent and relevant. Library education has traditionally been at the forefront of embracing new technologies, but only in the last decade or so have library and information science (LIS) programs also focused on leadership, particularly in a school library context. The Institute of Museum and Library and Services (IMLS) has served as a catalyst for leadership education by funding Project Leadership in Action (LIA) developed and implemented over three phases by the Florida State University School of Library and Information Studies (SLIS).

Project LIA was preceded by Project Leaders Educated to Make a Difference (LEAD), a Master's leadership curriculum developed for school librarians with emphases on technology integration, instructional leadership, leadership in reading, and organizational leadership. Thirty outstanding teachers from Florida were selected for a cohort that completed the curriculum and engaged in leadership activities as part of a master's degree in LIS in phase two – 1-2-3 LEAD.  Given all the opportunities of the Project LEAD program, the question remained: Would graduates enact a leadership role when they took a positions as school librarians? One study of the Project LEAD cohort (Smith, 2011) revealed that school librarians felt most confident to lead was technology integration, so it was determined to focus on this leadership area in this research.

Cooperative inquiry (CI), a leadership-in-action research methodology that includes leadership development as part of its process, is uniquely suited to answer this question. CI research aims to engage and empower practitioners as they partner with

researchers in documenting, interpreting and disseminating insights from their own experience (Heron, 2009). It has not been applied in any known library setting. Project LEAD provided an excellent context in which to test this powerful research methodology with new school librarians. This paper presents three cases in a year-long study of leadership practices using CI.

**Research Questions**

Participant experiences form the driving research question of this study: How can the CI methodology be used to evaluate the outcomes of school librarian leadership in technology integration? During the course of the study, the researchers investigated the following questions:

1. To what extent are new school librarians able to exercise formative leadership to organize and convene cooperative inquiry groups in their schools?

2. What are the factors common to successful cooperative inquiry processes led by school librarians?

3. How do new school librarians feel that the cooperative inquiry process integrated with their own leadership styles and abilities?

**Theoretical Framework**

Formative Leadership Theory (Ash & Persall, 2004) is based on the belief that school leadership is not reserved only for administrators and that all educators should enhance student learning and the abilities of educators within the school (Avolio & Gibbons, 1988). As educational organizations shift to a greater recognition that a school is a community with unique cultural aspects and many equally important roles (Maxfield

& Flumerfelt, 2009), the idea that leadership can develop in response to opportunity and experience is especially appropriate.

According to Ash and Persall (2000), nascent leaders may not be fully be aware of how their leadership capabilities are developing until they act and reflect on actual leadership events By using storytelling and modeling to communicate these formative experiences in later contexts (Janson, 2008), leaders are well-suited to use collaborative inquiry and learning to address organizational problems. Formative Leadership Theory accommodates school librarians' leadership roles in instruction, collaboration, resource provision, and administration (AASL, 2009).

In light of the possibilities and challenges inherent in technology integration and leadership development, this study explored ways in which school librarians asserted, enacted, and documented their leadership development. Using the lens of formative leadership to view the CI process in school librarian-led technology integration, this study lends insight into the education, skills, and dispositions needed to be successful in this role.

## Literature Review

Teachers, even in schools and districts committed to integration, struggle to effectively integrate technology (Hixon, 2009). Many studies of school library characteristics (Scholastic, 2008) found that school librarians with technology leadership were more likely to co-plan and co-teach with teachers and provide training for teachers. Other studies (Achterman, 2008; Mardis, 2007) reported school librarians who acted as technology leaders impacted academic success.

School librarians have a professional imperative to teach students new literacies that go beyond knowing how to use technology tools to create and communicate new learning (ALA, 2007). Students need these new literacies to be ethical, legal, and safe participants in digital culture.   Now, "school librarians are in a prime position to make significant and meaningful contributions toward the integration of 21st century literacy skills" (Hanson-Baldauf & Hughes-Hassell, 2009, p. 4).

School librarians' knowledge of pedagogy, curriculum, information, and cooperative work makes them valuable leadership assets (Asselin, 2005; Vansickle, 2000). The American Association of School Librarian's (AASL) first described the technology leadership role in *Empowering Learners: Guidelines for School Library Programs* (2009). These guidelines delineated multiple opportunities for school librarians to act as leaders and collaborators by modeling and promoting the use of technology for learning.

However, the leadership role of the school librarian in technology integration has been undefined for administrators, teachers, and, often, for the school librarians themselves (Asselin, 2005; Everhart & Dresang, 2007). Research by Smith (2011) suggested that effective school library leaders benefit from leadership training, mentoring, professional development, and administrative support. Training must foster risk-taking, an essential aspect of embracing technology and a self-descriptor rarely used by preservice school librarians. To date, school leadership literature has been dominated by theories and research designs that focus on the power of an individual to lead (Muijs & Harris, 2003). However, studies of effective school leadership often conclude that it is distributed, collective, and empowering.

**Methodology**

CI is an emergent process that contributes to the acquisition and creation of knowledge, deepens the leadership potential of all participants, and strengthens trusting and collaborative partnerships and relationships among group members (Oates, 2002). CI is designed to bridge the perspectives and approaches of diverse stakeholders in a situation (Ospina, El Hadidy, & Hofmann-Pinilla, 2008).  For the purposes of this study, the CI process was used to merge the viewpoints and experiences of school librarians, teachers, technology personnel, administrators, and other key school stakeholders in solving a mutually agreed-upon problem: What is an issue facing our school community that can be addressed with technology? CI participants inquired through cycles of action and reflection in an effort to "heal" their divergent points of view into a common solution (Heron, 1995).

Alcántara (2009) and Lawson (2008) revealed that the five critical factors that have a direct impact on the production of knowledge in inquiry groups as environment, relationships, trust, respect, and facilitation.

**Validity and Reliability**

Validity is established in several ways in cooperative inquiry studies. Face validity is established because the natural process of people communicating and expressing their opinions is recorded. Content validity is established because the people who participate are the experts in their own situations. Only they can express exactly how they feel about a situation or activity in which they have participated.  Furthermore, the use of cycles is a benefit in cooperative inquiry because the cycles increase validity. During the cycles, the co-researchers participate in action and reflection.  This increases

validity because each time a topic is examined the results are either confirmed or revisited until all co-researchers are satisfied with the results, as Figure 1 illustrates.

[Figure 1 here]

Representing all of the cycles of action and reflection and the information gathered during the meetings in the same context that it was presented ensures reliability. All participants take notes when cooperative inquiry studies are conducted properly. These notes are compared and compiled into a final report for the approval of all participants.  Following this process ensures information is not inadvertently excluded or misinterpreted.

**Study Design**

This study reports the experiences of three school librarians who led cooperative inquiry projects in their schools. The participants were recent LIS graduates and in their first year as school librarians.

*Phase I: Preparing participants for CI*

The initial phase of the project, training in the CI process, was coordinated over a two-day period by a team of two expert facilitators from the Research Center for Leadership in Action (RCLA), New York University and the researchers from Florida State University. The RCLA facilitators introduced fundamental principles of CI, ways to start a CI group, how to choose an inquiry question, the cycle of action and reflection, and the importance of adhering to the validation principles through the inquiry. This first phase of the training functioned as the start of systematic inquiry in which the researchers and the school librarians investigated the overarching research question of this study: What is the school librarian's role in technology integration?

Training activities and group discussion prepare participants to guide spontaneous school-based inquiries. The researchers and RCLA facilitators worked with the school librarian participants to brainstorm examples of how each school librarian could tailor the research question to their own site and methods for moving the inquiry ahead. With the help of facilitators, they identified possible challenges they might face in their schools: lack of time, managing authority and power and lack of clarity from school members on what they could learn and/or obtain from participating in the process.

*Phase 2: Creation of school-based teams and CI enactment*

At their schools, participants were responsible for selecting and cultivating their own school-based teams of approximately 5 to 7 members.  Each school librarian began by identifying key participants from the school community and invited potential team members in writing.  The invitations included information regarding the nature of the cooperative inquiry (i.e., to identify a school-based technology integration problem) and an explanation of the CI process. By accepting the invitation, team members committed to attending the entirety of each meeting; giving the meeting activity their full attention; respecting rules of constructive dialogue; and participating in the action/reflection cycle.

After the team was established, the school librarian held a series of CI meetings about a need in their school that could be met with technology. The meetings included: list possible focuses of the inquiry; agree upon a focus for the inquiry through dialogue; analyze the underlying problem of the inquiry; devise and prioritize possible solutions to the problem; determine implementation processes and outcome measures for the solutions; enact the solution; reflect on the effectiveness of the solution; and repeat the process if necessary. Each school was given $6000 to finance their technology projects.

In keeping with the procedures of CI, each school librarian organized the meeting spaces and agendas, took notes, and shared the notes with the team members.

**Data Collection and Analysis**

The participants met with the researchers throughout the project. They shared their CI experiences via video conference, online discussion board, email, and journals. Journal entries were prompted by questions that were both descriptive and reflective, asking participants to not only record their activities, but also to reflect on their leadership styles and development as new professionals. Because the group members had also known the researchers and each other as students in Project LEAD, they had informal communication and felt comfortable contacting the researchers for advice and feedback.

The researchers analyzed three participants' artifacts for themes that reflected aspects of CI and Formative Leadership Theory. Three participants' experiences, representative cases, are presented in this paper. Penny, Christine, and Jennifer (not their real names) conducted spontaneous cooperative inquiries during their first year as a school librarian.

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**Results**

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Three participants were able to complete their CI projects and provide enough detail to inform case studies. They achieved high, intermediate, and low success in leading their CI teams.

**Penny: A High Level of Success**

Penny's CI took place in an elementary school. Her team consisted of two teachers, the assistant principal, and a parent with technology expertise and community

connections. Their inquiry was centered on the question, "How can teachers quickly and easily integrate technology into their instruction?" The team's solution was to meet with classes every two weeks to teach teachers, along with their students, how to integrate new hardware or software by modeling.

Penny reported a high level of satisfaction with her CI. She held the meetings in the school library and used a SmartBoard to guide the discussion. Penny perceived that the team worked well together because they had already been using other cooperative and collaborative approaches for professional development in the school district. The CI team's trust was strong; group members were eager to work together and follow through on tasks for one another. Penny reported that she strategically invited team members based on their abilities to represent a variety of perspectives. This balance engendered respect among the group. Penny felt that her facilitation was important to the success of the group and she worked very hard to ensure that every meeting was well organized and focused.

**Christine: An Intermediate Level of Success**

Christine's CI took place in a middle school. Her team consisted of the principal, the network manager, the instructional TV teacher, a social studies teacher, a math teacher, a music teacher, and language arts teacher. Their inquiry was based on the question, "How can we use technology to increase student motivation?" Without group consensus, as a solution to the problem, Christine bought iPads in an attempt to motivate students in after-school tutoring to approach learning in a different way.

Christine reported an intermediate level of success with her CI. She conducted the meetings in the library after school and provided snacks. She constructed a wiki for

communication and ensured equal talk time for everyone in meetings. Group members were each accountable for something between meetings; no one had to carry all the weight. Through the process, Christine came to realize that facilitating consensus was leadership.

The group experienced some distrust because a few members disagreed with the device choice. The network manager who was originally supportive, blocked the download of apps once the iPads were purchased. Despite these initial difficulties balancing and facilitator roles, Christine reported that she would use the CI process again. She felt that the $6000 funding, along with the University sponsor,  heightened her colleagues' regard for the school librarian.

**Jennifer: A Low Level of Success**

Jennifer's CI took place in an elementary school. Her CI team consisted of two teachers, a parent liaison, a volunteer coordinator, and a technology coordinator. The CI team explored, "How can parents be taught the importance of technology to their child's education?" In response, the team designed workshops for parents to learn basic computer skills such as email, web searching, and filling out job applications.

Although Jennifer felt good about the after-school library-based meetings and their professional tone, she felt that more time for the team establish personal relationships would have been beneficial. Perhaps as a result, the team suffered interpersonal conflict, lack of shared purpose, and erratic attendance. The school librarian was left to execute many of the team's plans. Yet, Jennifer is willing to use CI again and considers many of her experiences "lessons learned" about how to attain leadership in her complex work environment.

**Discussion and Conclusions**

For school librarians, cooperative inquiry can be a powerful means to develop competencies and awareness necessary to lead effectively in a variety of educational and political contexts (Kasl & Yorks, 2010). The CI process allows school librarians to merge the perspectives of diverse stakeholders through collaborative problem solving. This study, a pioneering effort in the use of CI in a school library setting, provides definitive research findings that are a starting point for future researchers and education.

Table 1 details the participants' cases in relation to related to Alcántara's (2009) critical factors, environment, relationships, trust, respect and facilitation.

[Table 1 here]

Each of the cases yielded important insights into the questions that guided this study.

**RQ1. To what extent are new school librarians able to exercise formative leadership to organize and convene cooperative inquiry groups in their schools?**

The participants exhibited most of the formative leadership traits, mainly through strategic selection of their CI teams, skillful discussion facilitation, and consistent administration of the CI process. Jennifer's difficulties may be traced to allowing the group to self-select, rather than to deliberately invite influential members of the school community. Her team, even with persistent reminders that Jennifer was a facilitator and not the sole leader, continued to look to her to set the meeting agendas and order of events. She also described group dynamics as very poor. Given that the CI participants were first year school librarians in these schools, it is understandable that team selection

was challenging. Those who were successful built teams that were a cross-section of the faculty and also included the technology coordinators and principal.

**RQ2. What are the factors common to successful cooperative inquiry process led by school librarians?**

Participants who led a successful CI process noted careful team selection, sensitive and diplomatic discussion facilitation, and professional follow-through as determining factors. The participants emphasized the success of group ownership of problem and process. A well-conducted CI process helped the inquiry teams focus to address problems in their schools with technology and quickly and collaboratively propose possible solutions. Training in the CI process was essential. The skills on how to be an effective listener, facilitation, focusing the group, diversifying their CI group, discussing scenarios, and modeling of the process were all reported as being helpful in achieving their goals for their project.

A factor that contributed to those who were less successful was that they did not have a well-defined question to pursue. Christine decided almost immediately to seize the funding to purchase iPads without gaining group consensus. Although this move was contrary to the spirit, if not the goals, of the research, we did not interfere with the participant's decision but let the process unfold naturally.

**RQ3. How do new school librarians feel that the cooperative inquiry process integrated with their own leadership styles and abilities?**

For new school librarians, leadership involves both forming their insights into school culture as well as influencing colleagues' ideas of what school librarians can and should do. The Project LEAD education gave them the confidence to tackle their new

positions as school librarians from the perspective of a leader, particularly in the area of technology integration. The CI process gave them a technique to enact and reflect on this leadership with others.

Schools are hierarchical, driven by policy, and framed by concrete objectives and learning standards. Many teachers, hindered by scarce time and resources, are unsure how to participate in decision-making and inquiry. Penny, the most successful participant remarked, "I found that I had to re-think and revise many of the activities to relate to the school setting. It felt very 'corporate' to me." Based on comments like these, the researchers are currently investigating an adaptation to the CI process model that might make it more compatible with school librarian leadership.

Successful teams were those in which the school librarian invited diverse and influential team members. Although the school librarians were new and did not know other staff members, they relied on their leadership education to determine critical members for their teams. In the case of low success, Jennifer asked for volunteers. Heron (2009) noted the importance for CI facilitators to formally invite potential members to set the stage for mutual trust, respect and understanding throughout the course of the entire process.

Initially, the school librarians reported that their teams looked to them to be a formal leader. It may be that environment played a role in this perception (Alcántara 2009). The participants held all of their meetings in the school library, a space they controlled. Although the participants described their libraries as excellent environments, holding meetings at other places in the school could reinforce the team concept of the CI. Those who maximized their effectiveness as leaders did so by trusting the CI cycle and

process. Leaders confronted fear and uncertainty (Ash & Persall, 2004) from other team members by facilitating communication at and between meetings and continuing to ask questions.

Existing literature does not address the importance of data collection in the CI method as was emphasized by these participants. Given the emphasis on data for decision-making in schools today, this is not surprising. Those who collected pre and post data felt it reinforced confidence in their leadership abilities. It was also suggested by the participants to collect anecdotal student data in addition to more formal data throughout the project.

As Figure 2 illustrates, the cases all exhibited common elements, activities, and outcomes for CI as a leadership development strategy.

[Figure 2 here]

Cooperative inquiry proved to be a viable methodology to evaluate the outcomes of library education for school librarianship leadership in technology. The process of action and reflection, coupled with the concept of participant researchers, allows for data to be collected in an unobtrusive manner. The cycle of action and reflection can be spread out or condensed, depending on the needs of the participants. It is helpful to provide prompts at various points for focused reflection as this leads to a richer discussion, allows the participants to model and tell stories, and for researchers to compare data among cases.

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Table 1. *Summary of Representative Participants' CI Experiences*

| Group Factor | Case 1: Penny | Case 2: Christine | Case 3: Jennifer |
|---|---|---|---|
| School Type | Elementary | Middle School | Elementary |
| Level of Implementation Success | High | Intermediate | Low |
| Team Members | 3rd grade teacher, 1st grade teacher, principal, assistant Principal, former parent who is a technology expert and community volunteer | Principal, network manager, instructional TV teacher, social studies teacher, math teacher, music teacher, language arts teacher | 5th grade teacher, 2nd grade teacher, parent liaison, volunteer coordinator, technology coordinator |
| Question | How can teachers quickly and easily integrate technology into their instruction? | How can we increase student motivation? | How can parents be taught the importance of technology to their child's education? |
| Project Description | Developed a technology rich media center; met with classes every two weeks and taught teachers along with their students how to integrate new hardware or software by modeling. | Used handheld devices to motivate students in after-school tutoring to approach learning in a different way. | Designed workshops for parents to learn basic computer skills such as email, social networking, and filling out job applications. |
| Main Group Issues | Worked well together since a similar process has been being used in district; faculty more committed than administration | Team members remained professional even when two members left to go to other schools; network manager who was originally supportive, blocked the download of apps once tablets were purchased | Interpersonal conflict; erratic attendance; group reformulation; members' discomfort with technology, negativity; group had to be disbanded and another formed |
| Cooperative Inquiry Implications | Efficient meetings as a result of following agenda and planning next steps | Made it clear it was a group process; school librarian became very confident as process evolved | Principal not a member of the team, team members also parents, team members solicited at a faculty meeting and not strategically invited |
| Best Practice | Pre and post data collected to | Tracked four students with pre and | Continue to ask engaging questions to |

| | | | |
|---|---|---|---|
| | determine impact; faculty buy-in of the process; CI group is representative of school | post test scores; maintain confidence and realize school librarian's role as a facilitator | reinforce that this is a group process |
| What Participants Would Do Differently | Examine implementation by specific grade levels | Move more quickly through the process and facilitate faster decision-making; conduct anecdotal student interviews throughout the project | Select team members according to commitment and ability to get along with others, make sure principal is on the team |
| Recommendations for School Librarians from Participants | Form a committee that covers all areas of expertise in your school. | Determine how you are going to collect data to determine impact from the beginning. | Record the meetings so you have accurate information; have a plan B. |
| Leadership Implications | Process has helped participant gain confidence, become an integral part of the school community and a leader in the profession; named to several school leadership teams. | Process was empowering; asked to join school leadership team. | Process caused school librarian to further reflect on her leadership style; appointed to lead discussions on how to spend significant technology funding school has received. |
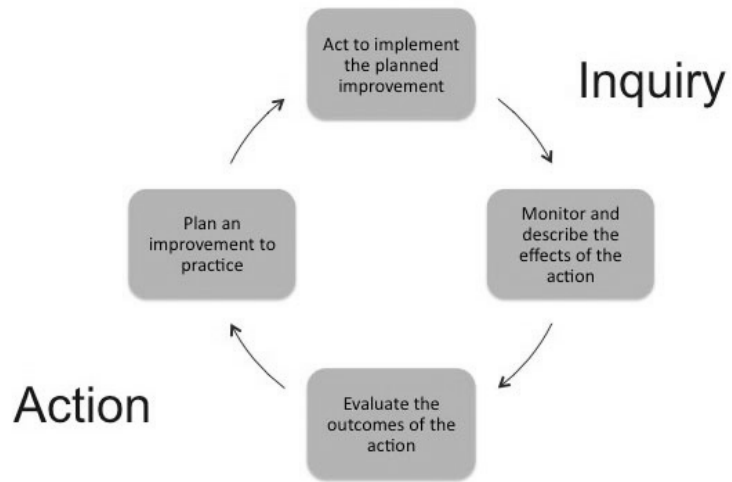
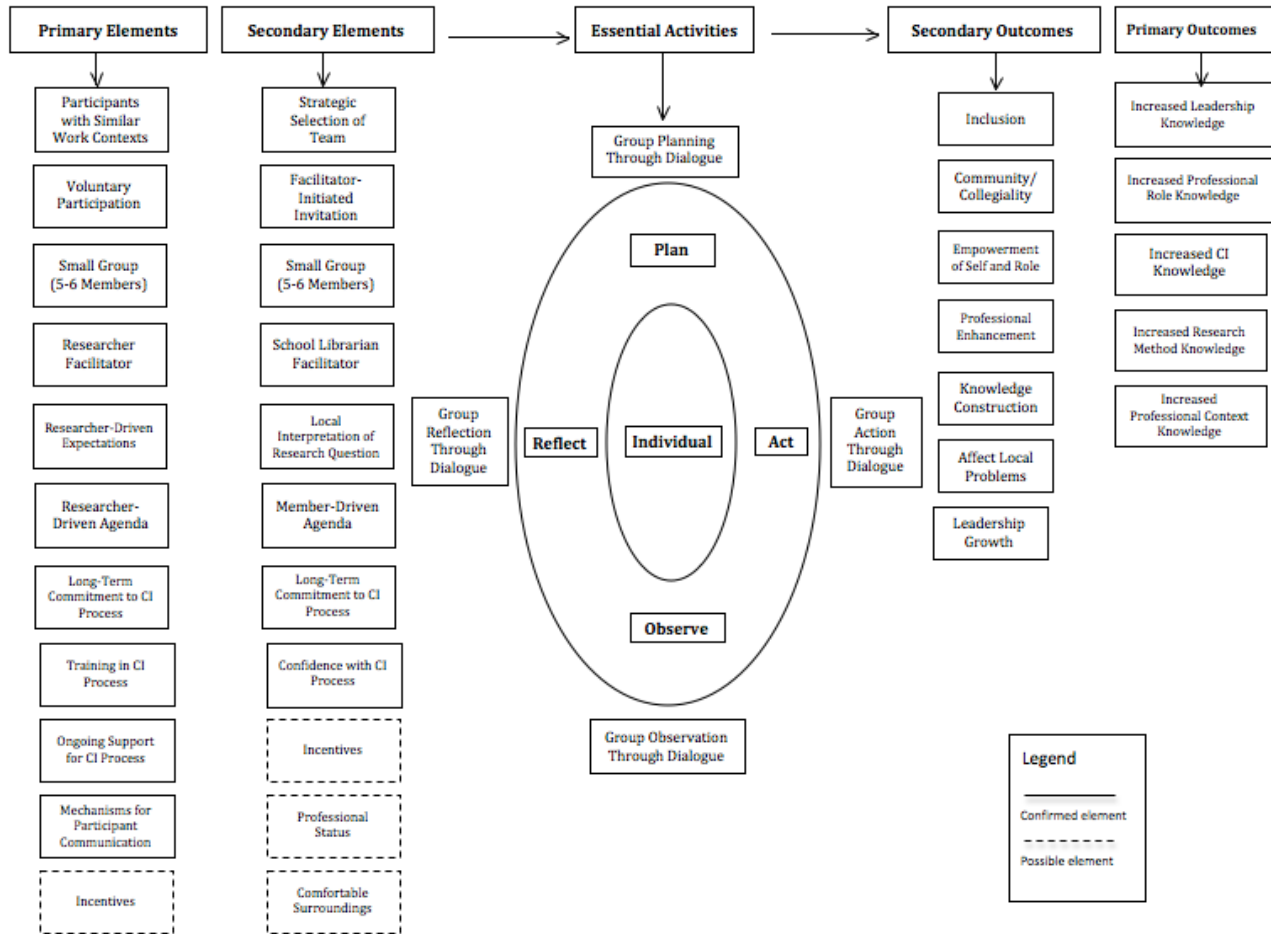Figure 1. Cycle of Cooperative Inquiry

Figure 1. Elements, activities, and outcomes of Cooperative Inquiry participation.