

Youth Community Informatics: Using New Digital Media to Foster Personal Growth and Community Action

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Abstract:

During fall 2007 a new collaboration between the Graduate School of Library and Information Science at the University of Illinois Urbana-Champaign and the Extension 4-H network was initiated. Funded by the U.S. Institute of Museum and Library Services, the goal of this collaboration, titled the Youth Community Informatics (YCI) project, is to develop and integrate new and existing strategies to involve youth ages 11-18 from underserved communities in using information and communications technologies to meet community goals. By involving youth from these communities, it is reasoned a sustainable program can be developed through the provisioning of new generations with the knowledge they need to face an information-oriented society. The project is modelled on the work of John Dewey and the American Pragmatists and seeks to create communities of inquiry that bring together professionals, pre-professionals, community youth leaders, and community youth to address community goals in underserved communities. This paper will review the early development of an YCI pedagogy and inquiry units as a means of sharing the curriculum, in addition to highlighting the lessons learned from the first year of this project.

Keywords: youth, university-community partnership, practical engagement

Introduction

Learning is generally divided into one of two models: a delivery of content, transmission-oriented model and a constructivist, inquiry-based model (Bruce and Bishop 2002; Warschauer 2003). While the transmission-oriented pedagogy has been historically dominant in most countries, there is a growing shift to an inquiry-based mode of teaching and learning (Bruce & Davidson 1996; Minstrel and VanZee 2000; Short et al 1996; Wells 2001). As new technologies of literacy emerge and become embedded in our daily practices, new possibilities for communication and knowledge representation also evolve (Bruce 2003). The inquiry-based model of teaching proposes that the way in which we interpret and respond to the new technologies directly determines the applications of those technologies. Warschauer (2003) further champions the importance of an information and communication technology (ICT) education that occurs as the backdrop to a main focus of social issues of concern to a specific community of learners. The focus of ICT education, then, must be on community and not just individuals, and must require democratic and equitable engagement of participants in design, implementation, and evaluation.

Just as important is the recognition that learning takes place within communities of inquiry (Bruce and Bishop 2008; Bishop and Bruce 2007; Bruce and Bishop 2002; Short, et al 1996; Wells 2001). Based on the theories and practice of Charles Peirce, John Dewey, and Jane Addams, communities of inquiry bring together a group of people united by a shared interest, problem or issue in order to investigate on, and act to address the problem/issue (Shields 1999). This paper reports on early work from a project exploring ways in which a rich environment for learning and action can be developed by bringing together professionals, pre-

professionals, community youth leaders, and the youth themselves to form communities of inquiry. Our explorations raise several specific questions:

- How can these communities of inquiry use participatory activities to assist underserved communities to both achieve their immediate goals and also aid in the development of a sustainable program through the provisioning of new generations with the knowledge they need to face an information-oriented society?
- In what ways are pre-professionals who are placed in situations outside of their comfort-zones subsequently required to adopt and adapt to settings that enrich and build upon the theories discussed in the confines of their university classrooms?
- How do the perspectives and experiences community youth bring to a community of inquiry enrich the professional participants specifically and their field generally?

Background

In communities such as East St. Louis, the Graduate School of Library and Information Science (GSLIS) students, faculty, and staff along with their community partners have been collaborating since 2000 to establish technology centers in 57 different organizations active within the community (Montague, Wolske, and Larkee 2009). Collaborations with youth programs such as Teen Tech and Community Concepts have aided in development of information technology and multimedia skill-sets that are helping to meet community goals through effective use of ICT. In Paseo Boricua, Chicago, GSLIS students and faculty have worked hand-in-hand with the Barrio Arts, Culture, and Communication Academy (BACCA), a program that teaches high-school youth the value of art and communication fields in their education.

The 4-H is the largest, informal, public-funded youth development program in the United States. Its programs, particularly as applied by its project group, makes use of a form of experiential education based on John Dewey's (1938) principles of interaction and continuity. As such, it is a living model of Dewey's philosophy (Enfield 2001). These principles are put into practice through a broad range of hands-on, project-based curriculum in areas including: communications, computers, geospatial technologies, robotics, and citizenship. Recently GSLIS, the 4-H, and a local middle school have worked together to enable Latino/a youth use podcast technologies to compose and publish stories important in their lives (Gretencord, et al 2007).

Through these activities and other community-based work we have gained several insights:

- There are major unmet information and technology needs within many communities relating to health, education, economic development and community building.
- There are untapped and unrecognized “funds of knowledge” (Moll, et al. 1992) in every community.
- Collaboration among community members and university partners has the potential to bring together knowledge across diverse experiences.
- Both education and community development work best when people from diverse backgrounds are able to learn together and from each other.
- Engagement in these collaborations can open doors to learning and career possibilities for community members, while enriching the learning of university students, faculty and staff.

The next section describes the pedagogy used to guide the development of the various phases of the project as they seek to capitalize on these insights.

YCI Pedagogy

The Youth Community Informatics project works within a youth-driven inquiry-based learning framework that traces back to Dewey's progressive education. According to Greenwood and Levin (1998, p. 74), Dewey believed that "all humans are scientists, that thought must not be separated from action, that the diversity of human communities is one of their most powerful features (if harnessed to democratic processes), and that academic institutions in general and academic social research in particular promotes neither science nor democratic social action." In his discussion of the relation between the learner and the curriculum, Dewey (1902) describes inquiry-based learning as a cycle or spiral, involving the formulation of a question, an investigation, the creation of an appropriate solution or answer, a discussion, and a reflection on the outcome.

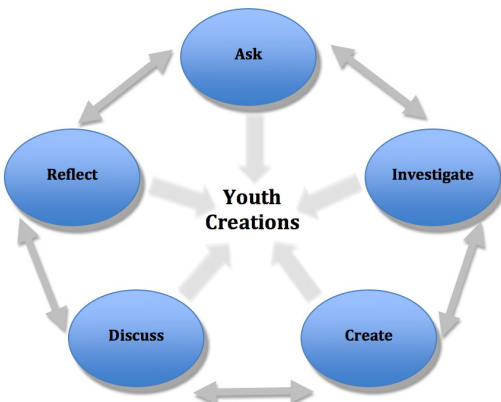


Figure 1: Youth Community Informatics Inquiry Cycle

A view of inquiry cycle as applied to the YCI project is shown in Figure 1. Youth can join the inquiry cycle at any point. For instance, recently youth from across the state of Illinois were brought together for a project-sponsored Youth Community Informatics forum. The forum was comprised of two general components. During an informal "youth media festival", participants shared videos previously made by youth in and about their communities. By discussing and reflecting on someone else's creation youth were led to questions regarding how they themselves could investigate and create their own videos to tell a story important to them. During the formal part of the forum, youth were encouraged to begin the inquiry cycle by asking, "How do people in the Champaign-Urbana community get the information they require to learn, solve problems, and conduct their daily lives?" leading to the question "What are the information spaces in the community?" Youth travelled to a range of information spaces, including the Center for Children's Books, the Champaign Public Library, the Independent Media Center, local cafes, the Native American House, a Transit Plaza on campus, the Illini Union campus community center, and bronze plaques around campus. Youth investigated how information was shared in these spaces and subsequently created presentations about those spaces. In this way, youth became active producers of information and knowledge, rather than passive learners. Youth were also encouraged to broaden their concept of information spaces and their roles within these spaces.

The YCI pedagogy thus represents a core idea of social learning in social constructivism (including Dewey); learning is constructed by social interaction between an individual and the social environment, not by an individual and independent work (Wenger 1998). As youth learn about their community, they simultaneously find new ways to learn more about themselves and their own identities, such as where they are, who they are, where they have been, what makes them different than others, in what community practices they are participating, and so on. Therefore, it can be said that inquiry-based learning is profoundly

associated with the social learning process of constructing a youth's identity and as such goes beyond simply collecting information and knowledge about their community.

In this pedagogy, the ICT is seen as a significant tool for facilitating the youth's interaction with the environment to gather information. Youth are in constant contact with their environment. It is not the case that youth simply pick up information that exists as an object "out there." On the contrary, using technology, youth "select" certain important points out of a large chunk of data and "construct" their own meaningful information. The ICT intervenes in such a value-laden learning process (Dillon 2004). To that end, the YCI project does not just focus on the ICT per se; rather, we are posing the questions, "What kinds of information and values do youth produce with the ICT?" and "What are the youth going to do for their community with the information they produced?" Curriculum that raises awareness of the ethical issues of information science are a critical aspect of the overall program, encouraging youth to consider questions like "How can the same information lead to two different and competing stories being told?" and "How trustworthy is the information being presented to you?"

By stressing the mutual interaction between community and youth in the YCI pedagogy, learning is no longer just learning for the sake of individual development of a specific youth. All in the community become learners as community members learn about their communities from the youths' activities (for instance, online mapping, community journalism), ultimately contributing to community building. This reciprocal relationship between the youth and the community for mutual growth is a key pedagogical issue in the YCI project. The actual impact of this inquiry learning reaches across the whole community.

YCI Inquiry Units

One stated goal of the YCI project is to create a curriculum that can be used nationally and internationally by youth organizations. The curriculum is being developed both by project personnel and partnering youth and youth leaders. The curriculum is being presented in the form of inquiry units. One such example is the inquiry unit used as the basis for the first YCI forum.

Information Spaces in the Community

The guiding questions for this inquiry unit include:

1. How do community members in a US city obtain information through various organizations and physical sites in the community?
2. How can new digital technologies can be used to investigate communities and to share what is learned?
3. How can we promote inquiry-based learning for all?

The activity makes use of diverse new technologies, but it is important to note that the focus is on learning about the community, asking questions, and sharing findings with others, not on the technologies per se. The most effective use of these technologies in libraries and similar settings would likely involve embedding that use in a larger, purposeful context. That context in turn could be a way to help connect participants with other resources, such as books and structured activities.

- **Ask:** How do people in the Champaign-Urbana community get the information they need to learn, solve problems, and conduct their daily lives? This leads to the question: What are the information spaces in the community?

- **Investigate:** Participants go out into the community in small groups (6-10), each with a group leader. Each group visits between one and three information spaces. In each space, they meet with people involved, listen, and discuss. They explore the space, make a video about it using a Flip video camera, and determine geo - coordinates using a hand-help GPS receiver. This investigation takes at least 30 minutes per site, but could be extended to a half-day or multiple visits. At each site, the participants ask questions such as:
 - What do we see in this information center? How do we like it?
 - What is this center about?
 - What do we want people to know about the center?
 - How can we give others a clear idea about the center through watching/hearing our report?
- **Create:** Participants return to a computer lab, where they make a GIS site using Google Maps and mark the coordinates of the places they visited. This could include the path they followed. They upload their video, music, and text. In some cases they might make a podcast or slide show about their findings.
- **Discuss:** Participants share their findings and the product they create with others.
- **Reflect:** Participants think about issues of journalism, democracy, careers, technologies, etc. Some questions they consider include:
 - What were the unexpected events, the surprising findings?
 - How do different information centers compare (based on the presentation and discussion)?
 - Do all community members have equal access to these information spaces?
 - What kinds of information are available? What kinds are missing?
 - How useful are the digital technologies for recording our findings? What other features might be helpful?

Although the above inquiry unit makes use of diverse new technologies, the focus was on learning about the community, asking questions, and sharing findings with others, not on the technologies perse. The most effective use of technologies involves embedding that use in a larger, purposeful context (Warschauer 2003). As applied during a recent Youth Community Informatics forum, youth were challenged along the way to consider how they might apply the specific lessons being learned within their own communities. For instance, during one of the periods for reflection, youth were asked, "What would you make a video about in your community?" One youth participant responded that she would make a video to address violence and its causes in her community. Her example illustrates a significant strength of youth-driven inquiry activities: empowering youth to address and solve community issues. Indeed, this specific question has become the starting point for a new inquiry cycle with a group of youth from East St. Louis fall 2008. The subsequent inquiry unit has been conceptualized as follows:

Creating a Documentary- Violence in My Community

In this inquiry unit you will create a documentary video that tells the story about an issue in your community. For this example we'll use the issue of violence in the community, but this could be easily substituted with another community issue.

Goals of this activity:

1. Reflect on the causes of violence in our community
2. Provide a voice for people in the community to talk about how violence affects them

3. Build awareness of violence in the community
 4. Find solutions to addressing the causes of violence in the community
- **Ask:**
 - What are the causes of violence in our community?
 - Where does it happen? How does it affect people? What can we do about it?
 - Who can tell us about this issue? Can we interview them? Are there hidden sources, such as community members who are unwilling to speak to authorities, that might help us see a more complete picture?
 - How can we communicate with others about this issue in order to build awareness and find solutions?
 - Are there official sources of information on crime/violence that we can obtain/use?
 - What do the neighborhoods look like where crime occurs?
 - **Investigate:**
 - As a group talk about the various causes of violence in our community.
 - If there is data about where crime/violence happens in our community, we'll put it on a map.
 - We'll identify what issues need to be addressed, investigate information sources on the issues, and decide who we could interview on the subject. This will become a loose script for our documentary.
 - We'll then pair up and distribute the people to interview among each group. Each group will prepare questions to ask the community members along the themes that the whole group discussed.
 - **Create:**
 - Now it's time to go out and interview community members.
 - Using the questions previously prepared as a guide, choose a spot to interview each community member.
 - Use a video camera, Flip video, or cell phone camera to record the interview.
 - Allow for some flexibility as the interview progresses. Ask questions that come to mind as you talk to with the interviewee
 - One of you should make field notes during the interview, logging an outline of the conversation. You'll use this later for quicker review of the video. After the interview, you can also record supplemental footage of the surrounding area and significant things that the person spoke about.
 - Edit video to produce a final presentation. Associate video with geo-coordinates using mapping tools.
 - Create additional presentations tailored towards specific audiences (community members, local officials, police, news agencies, etc.
 - **Discuss:** Youth share their findings with various audiences.
 - **Reflect:** What was learned about the causes of violence in the community? What are ways this information can be used to address these causes?

The above inquiry cycles illustrates how one inquiry cycle, in this case investigating information spaces, can lead into new inquiry cycles that are youth-driven. As such, the project envisions the creation of an online presence where youth organizations can upload their own inquiry cycle units to become part of a broader work. At the same time, there is an important benefit in having a body of seed units to be used initially by organizations to teach basic concepts and skill-sets. Therefore, an effort is underway to adapt existing activities used in diverse programs for use within the YCI project.

Stories From the Field

The following brief reports provide a glimpse of the range of community sites with which the project is working at this time. These reports have been compiled from summaries of pre-professionals working at those sites.

Peer Ambassadors

The Peer Ambassadors Program is a group of African-American teens seeking to better their bodies, schools, and communities through a number of ways, including peer-to-peer mediation, counselling, community service, and developing activities for youth. The program is located in an urban area of about 100,000 people and the home to the University of Illinois Urbana-Champaign. While adult counsellors help with overall program development, the activities are completely youth driven. The Peer Ambassadors do many service activities for their African American peers, including an anti-drug and anti-violence campaign involving the juvenile detention centers, talking with the local school board and a school principal regarding discipline issues, and other community actions for minority youth. The Peer Ambassadors have deeply integrated the inquiry cycle (ask, investigate, create, discuss, and reflect) into their core processes. They ask why certain issues, such as violence and crime, exist among their peers. Through focus groups, they investigate the reasons: lack of belonging, positive roles models, and activities. They create solutions through brainstorming ideas: weekly events and creating a teen center. They discuss these solutions with their peers, their communities and encourage everyone to take part and reflect in order to change and improve not only themselves, but also their communities. To date, these activities have happened in a relative void of information and communication technology. Teens report that very few have basic computer access or even library access. Their lack of computer access affects both their goals with Peer Ambassadors and their personal goals. To this end, the YCI project is working to introduce not only new digital media, but also basic computer access by working with the teens to facilitate their learning about basic hardware, software, and networking within a context of building their own Community Technology Center.

Teen Tech

Teen Tech is a program reaching African-American students through a weekend program emphasizing computer hardware and software skills. The program is located in an urban, economically distressed community of 30,000 adjacent to a large metropolitan area. Computers are refurbished and sold at a low cost to people in the community. Along the ways, a variety of basic business skills are developed. Students who stay with the program into the second year receive a small stipend from funds generated through the computer sales. The YCI project is exploring ways to expand the program into new digital media while also developing strategies for using inquiry to meet community goals. Current activities include the creation self-identity and community identity using biography, interviewing, video production and community asset mapping. A significant challenge to date has been getting the students interested in the new direction for the program. Students come from a number of surrounding communities and students have little interaction beyond the weekly event. To that end, the project is working with youth and youth leaders to identify new online social networking tools that can help share ideas beyond their weekly meetings. Youth have suggested using a MySpace or Bebo page to connect students. One youth in particular has taken the lead to coordinate the effort among the group to decide, plan and implement something. A space that's "theirs" online, for socializing and for collaborative work will get them interested and motivated toward community mapping and the inquiry activities we've been starting.

Paseo Boricua High School Students

Youth from a community high school in a latino/a community in the large metropolitan area of Chicago, Illinois, have been involved in a project designed to empower students to serve as curators of an exhibit of historical materials relating to Puerto Rico to be held in a major cultural institution, the Newberry Library (Vincler 2008). Community and University collaborators struggled with the dynamic of building in freedom and choice for the students while working within the necessary constraints of the project. The exhibit required deadlines and a strict timetable. The end product also had to meet the hosting institutions high standards. The principle challenge from a project design standpoint was how to give as much control and decision-making responsibilities to the students, while meeting these benchmarks. By synthesizing principles of critical pedagogy and community informatics, it was possible to foster a dialog that drew direct connections from past events with the students' present situations. The history of imperialism and colonialism led to conversations about gentrification, documents relating to the slave trade led students to conversations about the persistence of racism. The participating youth framed the historical materials in their own terms and were then able to write about them in a manner that they saw as relevant today.

This added a level of urgency to the exhibit descriptions and provided a means for organizing the items within the gallery space. On the opening day, the students served as docents and were able to engage the audience by drawing on their class discussions, thus deepening the conversation with their audiences about the historical materials on display.

Rantoul High School Students

Youth from a high school in a small rural community are concerned with addressing the poverty gap in their town and are determined to produce videos of journalistic integrity that document what they have dubbed "How the Other Side Lives." The community was once a bastion for Air Force families living and working at an Air Force base that closed in 1993, leading to a subsequent significant decline in the economy as well. A debate on the intersection of race, poverty and discrimination has begun in earnest and is a precursor to the problems youth will try to detail in their videos. Differences are being identified amongst group members and are being addressed by employing journalistic practices. Youth will interview one another in an effort to understand their distinctive backgrounds. Once those interviews are finished, the intent is to use the lessons learned to begin asking much of the same questions within their community. The hope is that these students, chosen by their superintendent for the promise they showed as leaders and not necessarily academic achievement, will address a community issue with digital technologies and an inquiry-based learning method. Recognizing the differences within this group of students and addressing some of these prejudices -- the gap between the rich and the poor, as well as a gap between races -- will be enlightening for both the students and the project.

Conclusions

There is a growing need for professionals who can provide the information resources needed by an increasingly diverse population who lack the skills for full participation in a democratic society (Bruce 2003; Kaptizke and Bruce 2006). Further, these new professionals must also have a deep understanding of the technical aspects of the new digital technologies, and especially how these technologies can be used within communities to promote learning, knowledge sharing, literacy development, and democratic engagement. Communities of inquiry have the potential for providing a framework in which professionals, pre-professionals, community youth leaders, and community youth can come together to directly address community goals while building a sustainable program through the provisioning of a new generation with much-needed information and technical skills.

While learning about new digital media creation provides a significant incentive for youth to participate within proposed projects, at the core this project seeks to embed an ethos of inquiry into the entire process. As described in the field notes of one of the pre-professionals working on the project, youth need to be “encouraged to begin ‘thinking outside the box’. We have grand ideas about working with these students, but we have to realize that they may not be used to exploring, questioning, and thinking in the ways we are hoping these activities will play out. In fact, school systems may squelch these kinds of expansive behaviors. We can give them a safe space to explore their own thoughts and ideas.”

The challenge of introducing inquiry-based pedagogy not only applies to the youth, but also to their youth leaders who likely have primarily been exposed to schools that emphasize a transmission-oriented teaching pedagogy. Helping to foster new ways of learning within the community itself becomes an activity using the strategies of community inquiry. As such, we view our own implementation of the project as a meta-inquiry cycle as we join together within new communities of inquiry at each of our focal sites across the state. Such practice requires that we: suspend belief and open ourselves to new ideas and evidence; communicate with an emphasis on listening; act to affect change; and use discussion and reflection to assess and learn from each experience (Shields 1999).

In a very real sense, steps to build these new communities of inquiry which are centered around community inquiry and new digital technologies would not be possible were it not for the rich background of experiences already shared between professionals and youth leaders. Work in the urban community of East St. Louis, for instance, is grounded in the activities of the East St. Louis Action Research Project (ESLARP), a University-based community engagement activity with a 20-year history, and more specifically nine years of involvement in the ESLARP project by the lead author. At its core, these participatory activities require strong relationships that arise out of shared experiences of action within the community.

For pre-professionals just coming into the project, though, it can be difficult to connect with this rich history of relationships that might be experienced by seasoned professionals and their community partners. For instance, one pre-professional has written:

Personally, I have long been interested in service learning, but my concern is that service learning has mostly a uni-direction from the outside of community: students (mostly from white middle class) go into the "others" community, meet with "others" needs, learn about "others," and empower "others." Although much research advocates the reciprocal relationship between the community and the participating students, I could still see in many cases the community people (minorities, underrepresented people, those in poverty) are regarded as an object/a client for students' learning. I have wanted to look at the other side of a story, which is from the community.

Finding ways to build strong communities of inquiry that fully and equally invest community members, pre-professionals, and professionals will be critical as the project continues to move forward. The first YCI forum provided a strong example of how bringing together youth, youth leaders, and University personnel from diverse sites provides both unique opportunities and also unique challenges. Community inquiry happens best when plurality and differences are understood using a hermeneutic process while also maintaining focus on the larger context (Bruce & Bishop, 2002). During the forum, valuable discussions between participants provided opportunities to explore similarities and differences between participants. Indeed, as a result of bringing together youth and youth leaders from a variety of underserved communities, one youth leader stated: "I believe, in the not too distant future, that this conference will be seen as a landmark in developing a new perspective as part of the

partnership between those marginalized sectors of civil society and the university in bridging the digital divide."

Based on the experiences from the forum, as well as work with individual focal sites, we were intrigued to find that community journalism is an effective way to directly introduce youth to community informatics, its goals, ethics, and challenges. The skills and focus that are taught in community journalism first draw and elaborate on students' emerging knowledge of their own community—social and material—and can lead directly into many different, active applications of the pro-community ethos. Further benefits are seen as professionals who are of a racial/ethnic minority are brought into contact with youth from these underserved communities as resources for skill development, mentoring, and information sharing. Indeed, the need for mentoring beyond skill-set acquisition and initial guidance questions was highlighted from early work.

A major objective is to use the 4-H model of a youth-driven program. In order to accomplish this, we must constantly allow youth to have an active voice and role in not only the dialogue of this project, but in the action as well. An encouraging way to achieve this is by continuing to emphasize the inquiry-based and experience-based learning philosophy. The inquiry units and the forum need to emphasize the act of exploration. A youth-driven project will allow youth to engage in these activities on their own terms. Fundamentally, YCI provides the jumping-off point and the assistance youth need in order to mold and shape the activity, the inquiry unit and their program to what they want. In their act of exploring or "messaging about," they are also able to engage themselves in their community in positive, meaningful ways to help meet community goals.

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