

B. COMMUNITY AND CULTURE

Technology and Collaboration in Informal Learning Environments: A Comparison of Community Technology Initiatives

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ABSTRACT

In response to increasing concerns about the “digital divide” – the gap between those who benefit from digital technologies and those who don’t – a growing number of community technology initiatives (CTIs) have emerged to realize the potential of digital technologies to underserved community members. Although CTIs share many common goals and procedures, there are also important differences. In this paper, we examine the role of collaborative learning and technology in two CTIs, the Computer Clubhouse (<http://www.computerclubhouse.org/>) and Committee for Democratization of Information Technologies Sao Paulo (<http://www.cdasp.org.br/>), and raise issues to be considered in the construction or improvement of effective community technology initiatives.

Keywords

Collaborative learning, community technology center, community technology initiative, constructionism, digital divide, telecenter.

INTRODUCTION

In this paper, we examine the role of collaborative learning and technology in the Computer Clubhouse (CC) and the Committee for Democratization of Information Technologies Sao Paulo (CDISP). At the end, we raise issues to be considered in the construction or improvement of effective community technology initiatives. CC is a network of after-school CTIs for underserved youth, ages 10-18 years old. Modeled on the constructionist theory of learning (Papert, 1980), members learn by working on projects of their own interests in an environment that fosters exploration, creativity and interaction. Projects range from Web site authoring to filmmaking, music recording, graphic design, and crafts and robotics. CDISP is a Brazilian organization that partners with community centers in the construction of "Schools of Information Technology and Citizenship" (EICs). At these centers, members from underserved communities, mostly teenagers, attend computer classes and use technology for their personal and community development.

COLLABORATIVE LEARNING AND TECHNOLOGY IN CC AND CDISP

Both CC and CDISP see learning, technology, and collaboration as empowering tools for underserved communities. These organizations create environments where people not only have access to technology, but also learn and practice a variety of attitudes and skills that are important to their personal and social life. For instance, a common Clubhouse artifact is a large, oval table around which community members gather to work on projects, share ideas, learn from each other, and forge relationships. Clubhouse walls provide a venue for showcasing member projects and inspiring new projects and collaborations. CDISP schools offer courses in which people learn basic computer skills by developing community-related projects -- such as newsletters, homepages and price comparisons -- addressing locally relevant issues that range from violence to teen pregnancy, drug abuse, and professional skills development.

The direct exchange of experiences among people from different ages, backgrounds, and social levels is of central importance to the two CTIs. For example, CC adult mentors expose members to innovative ways of engaging technology and serve as role models for identity development (Resnick, 1998). Mentors provide members the opportunity to see adults learning and developing projects. In the CDISP model, members develop a sense of citizenship by engaging in the Committee campaigns and decision-making process. Once a month CDISP hosts a "barn-raising" party in which expert technicians and novices from all social levels get together to fix the machines to be used in new EICs.

CC provides members with professional-grade graphic and multimedia design tools, a recording studio, movie and digital

image capturing tools, robotics and other computational construction tools. There are typically eighteen high-end computer workstations and several dedicated computers for music and movie constructions. In contrast, CDISP schools have five to ten mid-range computers with mainly utility tools such as text processors, Web browsers and email programs, and no printers. CDISP schools have this configuration because they rely heavily on local used-equipment donations.

ISSUES TO BE CONSIDERED

CC and CDISP each address the digital divide issue but with different emphasis. Their individual perspectives reflect how they deal with collaborative learning and technology. For CC, they are used for creativity and identity development. For CDISP, they are used to promote citizenship development. The two CTIs aren't mutually exclusive in their approaches, though. One could envision an organization that combines the project-based learning and mentoring of the CC model with the community participation and governance of the CDISP approach.

It is interesting to note that, in most cases, neither organization applies technology directly to support collaborative learning. Technology is used as a medium of personal expression. Collaboration happens locally, without digital mediation. However, in order to expand and enhance their respective models, the two CTIs are widening their focus from local to inter-community collaborations. Without technology, these long-distance interactions cannot happen. This is where the tools they are using fall short. For instance, Clubhouse tools don't support collaborative project development or sharing of ideas across CC sites. Likewise, CDISP's technologies don't help communities exchange experiences or participate in the governance and strategic-planning process. Moreover, face-to-face interactions and member sense-of-connectedness to their community is still a critical element of the studied CTI's perceived effectiveness. Neither organization wants to lose this at the expense of expansion.

Our study about the relationship between technology and collaborative learning within CC and CDISP has raised important issues regarding construction or improvement of effective community technology initiatives. We believe that similar studies of other initiatives would contribute to enhancement of the CTI model, as a whole.

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