

# The Computer Clubhouse: Constructionism and Creativity in Youth Communities

reviewed by Barbara Guzzetti

**Title:** The Computer Clubhouse: Constructionism and Creativity in Youth Communities



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As a literacy researcher studying adolescents both in schools and in out-of-school settings, and having followed the editors'/authors' interdisciplinary work on young people's production of digital media (e.g., Peppler & Kafai, 2007a; 2007b), I approached this text with several questions. Some of my queries were simply informational: What are Computer Clubhouses and to what audiences is information about them useful? Where are they located? How are they funded? How are they evaluated and how do those evaluations demonstrate impact? How do these programs stimulate young people, particularly those under-represented in technology fields to pursue formal education or careers in STEM?

Other questions that guided my reading were more complex ones related to broader issues, the answers to which could potentially provide implications for teaching and learning both out-of-school and in school: What will this book tell me about young people's engagement with computational literacy? How might these descriptions of youths' explorations of and learning with digital media provide new insights into motivating ways to foster 21<sup>st</sup> century skills? What implications can be taken from these after-school programs to inform teaching and learning in informal and academic settings?

In the foreword to this four-part book, Barton Hirsch of Northwestern University addresses some of my first questions. Barton notes that the Computer Clubhouses and this book about them are not just for techies, but for everyone who wants to or does engage in participatory media, as well as for all of us who encourage or study youth in their creative production with technology. He suggests that the 100 plus Computer Clubhouses in 21 countries can help to bridge the chasm between researchers in various fields interested in capturing descriptions of environments that foster and promote the skills and abilities required for the new millennium. Computer Clubhouses can provide these opportunities for learning and for research on the learning trajectories of young people as they develop 21<sup>st</sup> century skills of problem solving, communication, creativity, initiative, and leadership within a supportive culture of peer and adult mentoring. So, just as the Computer Clubhouses appeal to a wide range of youth for their emphasis on pursuing personal interests of multimedia, arts, and popular culture, this book with its rich descriptions of learning processes, activities, and products should appeal to a broad audience of youth service providers, educators, and researchers across disciplines.

Encouraged by this inclusivity, I read with interest the note from Rosalind Hudnell, the Director of Diversity for Intel, the initial funding source and one of the current funding partners of the Computer Clubhouses. I learned that the first Computer Clubhouse was established in 1992 at the Computer Museum in Boston, Massachusetts in an effort to reach underserved youth and to help close the digital divide. More than a decade later, these are still important and timely goals since gaining access to and proficiency with digital technologies and abilities has

been referred to as the civil rights issue of the new millennium (Carvin, 2000). It is, therefore, encouraging to see the corporate world join with federal agencies like the National Science Foundation, private funding agencies like the Spencer Foundation, and university internal funding of UCLA's Center for Community Partnerships and the MIT Media Lab to address these issues that limit so many of today's youth.

Following the Acknowledgements where the editors uniquely and appropriately thank their readers for reading to understand how innovative after-school learning environments can support youth learning and creativity, the first section of the book, *The Computer Clubhouse Model*, begins. These three chapters provide the origins and the four guiding principles of the Computer Clubhouse (i.e., learning through design experiences, building on members' interests, celebrating a community of learners, and creating an environment of respect and trust). Beginning with these first chapters and interwoven throughout the book, readers benefit from the voices and perspectives of practitioners, researchers, and participants involved with Clubhouses across the globe. Color photographs show proud looks on Mexican and Bostonian girls' faces displaying their collaborative-work products with science and technology; strikingly beautiful digital paintings and 3D architecture from youth in Taiwan, Bogota, and Auckland; unique flash animations from New Mexico; and clever photomontages with miniature versions of self generated by youth in Israel and Atlanta, Georgia. A table presents demographic data and descriptive statistics of the locations and compositions of the 16 Clubhouses featured in the book. This section concludes with descriptions of how participants are networked in a global community through a traveling puppet, in-person network events, and online connections, closing with a description of the Clubhouse role in the local and global community.

The second section of the text, *Creative Constructions*, presents in three chapters the projects created in the Clubhouses. These include video games, art, and animation created with Scratch ([www.Scratch.mit.edu](http://www.Scratch.mit.edu)), open-source design software developed for the Clubhouse that allows users to create sophisticated products without learning complex computer programming. Other projects include "Hook-ups" or real-world objects made from craft materials that can control games, animations, and other computer programs in Scratch, along with video productions and dance performances incorporated into media productions. These rich descriptions made me want to visit a Clubhouse.

In the third section, *Collaborations in the Clubhouse Community*, the authors explain in three chapters how the social context of collaboration impacts learning and creativity within each site and across the Clubhouse network. These chapters report how Clubhouse members use software for designing artifacts called "pearls" and articulate and reflect on their design processes, sharing how they learn and develop creative ideas. Another chapter describes how mentors participate as facilitators, advisors, observers, and co-learners. The last chapter in this section explains how participants share their work and influence each other within their online community, the Clubhouse Village. This virtual element represents an exciting way of using digital technology to share and showcase digital learning and form global affinity groups (Gee, 2003).

The last section of the book, *Showcases of Computer Clubhouse Successes*, presents in three chapters the results from three evaluations of the program and the project staff's responses to those evaluation findings. Although none of those evaluations incorporated experimental or quasi-experimental designs that could establish cause-effect relationships, the evaluations did include more than self-report measures of survey questionnaires or interviews. The photographs and artifacts collected from direct observations provide strong testimony to the efficacy of the program, particularly in terms of individual empowerment. Comments from participants that open and close the book triangulate this observation and attest to the power of peer mentoring, the opportunity to showcase talents, and to learn in hands-on and collaborative ways that foster members' dedication, creation, and imagination.

Given the "chilly climate" for women in technology fields (AAUW, 2000), I was pleased to learn in this section how the project staff responded to the finding that more boys than girls enroll in Clubhouses by establishing girls-only projects to improve girls' attitudes toward computers and to help young women see computers as relevant to their futures. I was also gratified to learn that attending to gender issues in the Clubhouses also provided for the needs of boys. Some Clubhouses are for males only to respond to local needs for engaging activities as alternatives to negative influences of gangs and drugs. I was unable to learn, however, how many

males or females were stimulated by Clubhouse to College/Career mini-grants or took advantage of Intel's Computer to Clubhouse Scholarship Fund; perhaps this information is not yet available since these funds were only recently put in place in 2008. More information about the evaluations and the Computer Clubhouses can be found on the Computer Clubhouse Network website at <http://www.ComputerClubhouse.org/reports.htm>.

While an overview of the chapters answered my initial questions, a synthesis of common themes across the chapters addressed my more complex queries regarding implications for teaching and learning in both informal and academic spaces. The editors/authors allude to a dichotomy between learning in informal settings and in classrooms with statements like, "...the kind of learning that happens in the Clubhouse ... is so relevant to youths' intellectual and social development, but is rarely provided in school" (p. 145). Yet, elements of these Clubhouse practices also can be found in effective classrooms or are transferable to classrooms, like creating a constructivist learning culture, community building, collaborative learning activities, peer mentoring, and same-sex grouping. Other strategies may be more difficult to implement in schools due to lack of funds, limited access to technologies, and demands of state standards and high-stakes tests. Whether learning in or out-of-school, this innovative environment requires teachers to engage in reflective pedagogy and adopt a willingness to become learners themselves, a stance which may be difficult for some to accept. Whatever the reader's role – teacher, researcher, or practitioner – this book is a must read for anyone interested in advancing the agenda of promoting youths' learning of the literate skills and abilities required for citizenship in the 21<sup>st</sup> century.

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