

Encyclopedia of Developing Regional Communities with Information and Communication Technology

Stewart Marshall
The University of the West Indies, Barbados

Wal Taylor
Cape Peninsula University of Technology, South Africa

Xinghuo Yu
Royal Melbourne Institute of Technology, Australia

"Leveraging Digital Multimedia Training for At-Risk Teens"

Timothy Shea
University of Massachusetts Dartmouth, USA

Craig Davis
The Youth Digital Arts CyberSchool, USA



IDEA GROUP REFERENCE
Hershey • London • Melbourne • Singapore

Acquisitions Editor: Renée Davies
Development Editor: Kristin Roth
Senior Managing Editor: Amanda Appicello
Managing Editor: Jennifer Neidig
Copy Editors: Renée Davies, Lori Eby and Bernard J. Kieklak, Jr.
Typesetters: Diane Huskinson, Sara Reed and Larissa Zearfoss
Support Staff: Michelle Potter
Cover Design: Lisa Tosheff
Printed at: Yurchak Printing Inc.

Published in the United States of America by
Idea Group Reference (an imprint of Idea Group Inc.)
701 E. Chocolate Avenue, Suite 200
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@idea-group.com
Web site: <http://www.idea-group-ref.com>

and in the United Kingdom by
Idea Group Reference (an imprint of Idea Group Inc.)
3 Henrietta Street
Covent Garden
London WC2E 8LU
Tel: 44 20 7240 0856
Fax: 44 20 7379 3313
Web site: <http://www.eurospan.co.uk>

Copyright © 2006 by Idea Group Inc. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher.

Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

Encyclopedia of developing regional communities with information and communication technology / Stewart Marshall, Wal Taylor, and Xinghuo Yu, editors.

p. cm.

Summary: "This encyclopedia provides a thorough examination of concepts, technologies, policies, training, and applications of ICT in support of economic and regional developments around the globe"--Provided by publisher.

Includes bibliographical references and index.

ISBN 1-59140-575-0 (hard cover) -- ISBN 1-59140-791-5 (ebook)

1. Communication in community development. 2. Communication in economic development. 3. Community development--Developing countries. 4. Information technology--Developing countries. 5. Digital divide. 6. Community information services. I. Marshall, Stewart. II. Taylor, Wallace, 1944- III. Yu, Xing Huo.

HN49.C6E545 2005

303.48'33'091724--dc22

2005004543

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this encyclopedia is new, previously-unpublished material. Each article is assigned to at least 2-3 expert reviewers and is subject to a blind, peer review by these reviewers. The views expressed in this encyclopedia are those of the authors, but not necessarily of the publisher.

Leveraging Digital Multimedia Training for At-Risk Teens

Timothy Shea

University of Massachusetts Dartmouth, USA

Craig Davis

The Youth Digital Arts CyberSchool, USA

INTRODUCTION

The digital divide exists in poor countries and wealthy countries, the country side and cities, and across age groups. Useful solutions when trying to “bridge” the digital divide should include collaboration with local groups in order to better understand and meet their needs (Eglash, 2004). The most far-reaching examples of these community-oriented, information and communication technology (ICT) products and services result in social and economic impacts beyond just the use of technology—sometimes referred to as community informatics. This paper offers one such solution where an extremely cost-effective, community-based ICT program was successfully piloted in order to improve the computer and digital multimedia literacy of at-risk teenagers, provide job skills, open up new career opportunities, and begin to improve the overall economic capital of the community. While piloted in an inner-city, the program represents a best practice that is equally applicable to a small rural setting or to a regional educational initiative. More specifically, this paper describes the project, the curriculum, and—through the use of a questionnaire and video interviews—the students’ experiences taking the class.

BACKGROUND

In July and August of 2002, two organizations combined forces to create a special six-week learning opportunity for 15 at-risk teenagers from Boston, Massachusetts’ inner-city neighborhoods. The goal for the class was to learn film and computer-based multimedia skills, employ those skills through working in teams, and develop a video documentary. What distinguishes this educational opportunity from others is how computer technology was so actively intertwined in both creating and enhancing the educational experience.

During the first half of the six-week program, students learned about film history, utilized computer software to create and edit audio, music, and video tracks, and prac-

ticed performing the different roles necessary to create a documentary—producer, director, interviewer, camera-person, and editor. The students spent the last three weeks working in teams applying their newly learned skills toward the creation of the documentary. The group assignment was to create an actual documentary. Within each team, each student chose a specific role to focus upon in order to develop a depth of skills in that area.

In an extremely brief amount of time the students, ages 13 to 18, had the opportunity to gain professional media experience and build confidence in a variety of technical and team skills. In the process, they utilized their full range of learning styles—from visual, to auditory, to kinesthetic—and exercised their critical thinking skills both individually and in a team setting as the hundreds of details in developing and refining a multi-track, multimedia documentary were worked through.

The sponsoring group for the class was ABCD (Action for Boston Community Development), a private, non-profit, human services agency promoting self-help for people and neighborhoods that serves over 100,000 low-income Boston-area residents annually (ABCD, 2003). One of ABCD’s programs, SummerWorks, is a summer jobs program for Boston’s low-income, at-risk youth that has been in place for 35 years. For the summer of 2002, the SummerWorks program provided over 1,300 inner-city youth with paid, 25 hour a week community-based summer jobs that included mentoring, tutoring, and educational support. “SummerWorks enrollees worked in social service agencies, downtown non-profit and government agencies, museums, day camps, libraries, health centers, hospitals, and more. Enrollees also participated in workshops that provide job readiness and skill-building workshops” (ABCD, 2002). One of the SummerWorks 2002 opportunities was a special pilot program.

Fifteen of the students who were hired for ABCD’s SummerWorks program were randomly selected to participate in a special skills-building program where they would create a video documentary of ABCD’s 2002 SummerWorks Program. The students had no prior knowledge of what they would be asked to create, came from

various locations, and had no prior experience working with one another. Only two of the students had any previous experience creating digital video or digital audio. No academic credit was given for participation in the program.

The LCG (The Learning Community Group) of Boston, based on years of experience in the media production industry, designed and built the hardware and selected and customized the software needed to create a video documentary. The LCG is a technology research and teaching organization dedicated to technology access and mastery by all people, regardless of age, gender, ethnicity or economic bracket. They develop programs that provide emerging technology instruction in a multitude of diverse settings: public and private schools, homeless shelters, libraries, community centers, government agencies and corporate offices (The LCG, 2003).

The technology component of the class involved the utilization of The LCG Mobile Media Studio (MMS). The MMS is a professional and portable digital audio, video, and music production studio. The MMS is used to create and deliver material for the Internet, broadcast television, or a host of other CD and DVD media distribution formats. The hardware components included a high-performance digital audio/video workstation as well as high-end audio production equipment, including speakers, microphones, and noise-canceling headsets. The software components included professional-level programs for: creating electronic music, recording and editing professional audio tracks, recording and editing professional video tracks, creating CDs, and streaming media on the Web. Student support for using the MMS included printed guides and an online support community through forums (The LCG, 2002).

The class met five days a week, from 9 A.M. until 3 P.M., for six weeks. The course was taught by a master instructor and film producer from The LCG and assisted by a staff member from ABCD.

THE CURRICULUM

The overall objective of the six-week program was to develop a 25-minute, multimedia documentary about ABCD's 2002 SummerWorks program. Curriculum objectives leading to the overall objective included:

- Study film history
- Comprehend and use film language
- Gain media awareness
- Gain experience in executing every production role on a film or video set
- Develop film and video production skills
- Use digital video editing technologies fluidly

- Hone the art of storytelling
- Develop skills for working in teams

The curriculum was broken down into modules as described in the following sections.

Module 1, Week 1: Objective = Crash Course in Film History / Photography / Cinematography / Film Language

The first week had four major components:

- Description of class/job objectives
- A crash course on film history, photography, cinematography, and film language
- Initial exposure to the cameras and the video editing software
- Team building and interviewing skills

Although the crash course in film and production concepts was considered "too much like high school" by some in the class, they were able to apply the concepts taught in class effectively. One assignment challenged the students to find examples of the concepts on TV. Students accurately identified:

- An Eisenstein montage within a music video
- The rule of thirds being used on a game show
- Joseph Campbell's monomythic arc being followed in an episode of "SpongeBob Squarepants"

After one week, the students were ready to work as a production team to develop their first film short.

Module 2, Week 2 & 3: Cross-Job Training

During weeks 2 and 3, the class was broken evenly into two groups. The students, in essence, became employees. The students rotated from producer, director, interviewer, camera-person, and editor, trying every position at a number of sites around the Boston area. For example:

- Producers and directors contacted the site they visited, set up an arrival time, and scouted the location beforehand to get ideas of how to capture the site
- Camera-people worked on video taping locations and gained experience using the camera
- Editors imported the resulting footage and edited it to music in order to gain experience in using the editing software

Students typically visited one site per day.

Module 3, Weeks 4, 5 & 6: Working on the Final Project: Creating the Documentary of ABCD's Boston SummerWorks2002.

In week 4, each student ranked which job they were the most confident at and the instructor—based on observation and student preference—formed the production staff that stayed in place until the end of the project. From this point on, the instructor moved from a teacher role to an advisor role. Students decided where they wanted to visit, who to contact and what to ask. They became a fully functional production team.

Weeks 4 and 5 were spent recording footage from 10 different sites. Week 6, the final week, was spent doing post-production work—directors, producers, and interviewers wrote thank-you letters to the sites visited while the camera-people catalogued the tapes and footage. The class voted on their favorite sites and determined an order for the documentary. The segments were then assembled and the final product was shown to various audiences.

The Final Product

The final product was a 26-minute, professional quality, multi-track video documentary of ABCD's 2002 SummerWorks program—produced in only three weeks. The documentary can be viewed from <http://www.theleg.com/research.htm>.

The video in its final form, complete with insightful interviews, professional visual composition, succinct story telling, and sophisticated editing is a notable achievement. However, the student's innate capacity and understanding of syncopation elevates the subject matter producing a final product that rivals a professional production. The digital video comprehension that was gained empowers the participants offering a new medium for self-expression.

Assessment of the Student's Work

Several forms of assessment were used to evaluate each student's progress throughout the program:

- Students kept an ongoing journal for recording their thoughts and comments.
- During the third week, a mid-program assessment was conducted. "One-on-one" meetings were conducted between the instructor, the ABCD assistant, and each student. Each student was given formal feedback, to gauge their excitement, dedication and personal investment in the project, as well as allowing them the opportunity to make suggestions and requests. This mid-program assessment was extremely effective in bridging the academic mode with the production studio end.

- A final assessment was conducted through individual video reflections and a round table discussion. The individual video reflections gave the participants the opportunity to reflect on the process. In addition to this, the instructor and the ABCD assistant conducted a round table discussion about the process and the successes and failures that came with it. Students were not easy on themselves either. At this time they pointed out that they wished they could have had more time to perfect the audio in both recording and editing. These assessments were effective due to the ability of the students to make mature, professional, and sometimes poignant suggestions.

Relating the Course Curriculum to the State of Massachusetts' Language Arts Framework

To make the program relevant to the student's middle school and high school education, the course curriculum was designed to fulfill a number of the specific learning standards for grades seven through 12 as established in the state-wide curriculum frameworks by the Massachusetts Department of Education (Massachusetts Language Arts Framework, 2001). The course curriculum related specifically to the Massachusetts Language Arts Framework, especially for the following standards: media production; analysis of media; discussion; questioning, listening, and contributing; oral presentation; writing; consideration of audience and purpose; and revising. Details of how the program's curriculum relates to the Massachusetts Language Arts Framework are available from the authors.¹

THE STUDENT EXPERIENCE

Students became very close through this process. By the nature of the project, creating a documentary, each group had to work together as a cohesive whole as well as take responsibility for their own actions and duties. By the end of the program they were more than classmates, they had become a tight-knit family as evidenced by the hugs and tears shared on the last day and their continued attendance beyond their final payday. As the instructor put it, "Throughout the process I witnessed students staying extra hours without pay four out of five days a week, not just because of the equipment but because they were excited to be creating a product, and enjoyed following its progress. Even once there was nothing else to do, students continued to come in at 9 A.M. and stay until 3 because they wanted it to still be a part of their

life.” All of the students came in at least once after the program was concluded. Six of the 15 students appeared everyday for two weeks after the program concluded.

Data was collected about the student experience through two means. First, a 15-question student evaluation form made up primarily of 1-to-5 Likert scale questions that provided space for an open-ended explanation for each answer was administered during the last week of class. Secondly, nine of the students were interviewed individually about their class experiences. Segments of those interviews can be found at <http://www.thelcg.com/research.htm>.

Questionnaire Results

Twelve out of the 15 students in the class completed the questionnaire. A copy of the questionnaire, based upon a validated instrument from ASTD’s 2002 Learning Outcomes Report, is available from the authors (ASTD, 2002). The questions used a 5-point Likert scale, where a “1” meant “Strongly Disagree,” “2” meant “Disagree,” “3” meant “Neither,” “4” meant “Agree,” and “5” meant “Strongly Agree.”

Overall, students were *very satisfied* with the course (Q15), with an average response of 4.4 (Between Agree (4) and Strongly Agree (5)). Interesting results from the other questions include:

Student’s Previous Experience

Student’s previous computer experience (Q1 & Q2) was quite varied. Average student use of the computer before starting the class clumped into two groups:

- 50% used the computer six or fewer hours per week
- 33% used the computer 21 or more hours per week

Most of the computer use was for the expected—e-mail and chat, writing papers, and surfing the Internet.

Class Organization and Delivery

- **Understanding course objectives:** Students clearly understood the course objectives and felt the course met the objectives (Q5 & 6, Mean of 4.5 and 4.4, respectively). One student’s comment, “I knew what I was responsible for,” was representative.
- **Teaching effectiveness:** Students felt the instructor’s approach to “teaching and presentation of materials made it easy for me to learn” (Mean of 4.4). Students enjoyed the “hands-on” aspect and being able to “get out and do things.” Two students mentioned the program “started off like a

class,” “being taught and told,” and how they liked it better once they started using the software.

- **Pace:** Most students felt they had enough time (Q8), but 17% (2 of 12) did not (answered 1 or 2: strongly disagree or disagree). Several comments mentioned learning a lot but wanting more time.
- **Effectiveness:** All but one student answered “Agree” (4) or “Strongly Agree” (5) to the two questions about what they learned: whether they learned something in the class (Q11) and whether they are confident with what they learned after the class was completed (Q12). One student emphasized the point by saying, “It is on my resume.” Another said, “I feel like I could teach someone else.” Finally, based on the experience of going out and interviewing people, one student now has “more confidence talking to people I don’t know.”

Impact on Job Skills and Future Job Aspirations

Seventy-five percent answered “Agree” or “Strongly Agree” to whether they see themselves “getting a job where I can use the knowledge and/or skills gained through this course” (Q14). One student specifically mentioned wanting “to work with film when I get older,” another “wants to be a producer.” In fact, making use of the skills that he learned and honed during the six-week program, one of the students has begun his own business as a wedding videographer. Another student has completely changed her career goals and now wants to become a producer of documentaries, film, and television. Before this summer she was planning on attending a two-year community college. Now, she has already begun investigating film schools in the area and researching their criteria for incoming freshman. Another student submitted the documentary in a competition for an artistic grant. More than 1,000 students applied and he was awarded the artistic grant.

CONCLUSION

Overall, the results are very positive. Put simply, the two immediate objectives of this ICT program were *to inform* and to have the students *perform*. Students needed to quickly learn film and production concepts as well as hands-on skills such as using a video camera and video editing software. TheLCG’s MMS, or Mobile Media Studio, provided a field-tested set of hardware and software that is robust and reasonably easy to learn and use. TheLCG’s curriculum, tested and refined over a number of years, provided an effective process for high-school-age

students (and even younger) to learn the conceptual foundation, the hands-on skills, as well as the communication, team-building, and design skills needed to create a high-quality video documentary within a few weeks. From the results of the end-of-the-class questionnaires and interviews, students were engaged and they enjoyed the many challenges of this course. As one student said, "It was fun and didn't seem like a hard job, just interesting."

In the long term, students took one large step towards succeeding in the 21st century by becoming more literate in both computers and computers' new language, digital multi-media. For the community, economic capital is enhanced through new job skills and career opportunities. Social and cultural capital grows by understanding new ways of expression and new ways to record and distribute history. For example, once people in a community know how to use digital video and audio they can create their own documentaries and Internet TV stations.

As a result of the successes of this pilot program, ABCD decided to redesign its University High School's computer lab into a full digital media production studio in which every computer is a Mobile Media Studio. In addition, some of the computers now possess professional music recording and DVD authoring capabilities. ABCD and the LCG are also exploring the creation of a dedicated room to be used for regular Internet TV and Radio broadcasts as well as music production.

REFERENCES

ABCD. (2002). Action for Boston Community Development. Retrieved November 26, 2002, from www.bostonabcd.org/publicinfo/2002/08-13-2002.htm

ABCD. (2003). Action for Boston community development. Retrieved September 15, 2003, from www.bostonabcd.org

ASTD. (2002). The 2002 ASTD learning outcomes report. The American Society of Trainers and Developers. Retrieved November 26, 2002, from www.astd.org

Eglash, R. (2004). Community informatics: a two-way to bridge approach. Retrieved July 10, 2004, from <http://www.rpi.edu/~eglash/eglash.dir/ci.htm>

The LCG. (2002). The Learning community group. Retrieved November 26, 2002, from <http://www.theLCG.com/services/MMLdemo.swf>

The LCG. (2003). The Learning community group. Retrieved September 15, 2003, from www.theLCG.com

Massachusetts English Language Arts Curriculum Framework. (2001). Massachusetts Department of Education. Retrieved June 10, 2003, from <http://www.doe.mass.edu/frameworks/current.html>

KEY TERMS

Community Informatics: The use of information and computer technologies (ICT) in communities in order to impact communities socially and economically.

Critical Thinking: An active and systematic cognitive strategy to examine, evaluate, and understand complex issues and personal choices, pose provocative questions, correctly frame and then solve problems, and make decisions on the basis of sound reasoning and valid evidence. This competitive edge requires both rigorous analysis and nimble imagination. (Definition based on www.centerforcriticalimpact.com/definitions.htm definition.)

Learning Style: An individual's unique approach to learning based on strengths, weaknesses, and preferences. Though experts do not agree how to categorize learning styles, an example of a categorization system is one that separates learners into auditory learners, visual learners, and kinesthetic (feeling) learners. (Definition based on e-learningguru.com/gloss.htm definition.)

Likert Scale: A rating scale, typically 1 through 5 or 1 through 7, measuring the strength of agreement with a clear statement. Often administered in the form of a questionnaire used to gauge attitudes or reactions. (Definition based on http://www.isixsigma.com/dictionary/Likert_Scale-588.htm definition.)

Multi-Media: The use of computers to present text, graphics, video, animation, and sound in an integrated way. Long touted as the future revolution in computing, multi-media applications were, until the mid-90's, uncommon due to the expensive hardware required. With increases in performance and decreases in price, however, multi-media is now commonplace. Current PCs and PC operating systems are both capable and specifically tuned in order to accommodate the rapidly growing demand for multi-media, especially in the consumer market. (Definition based on www.webopedia.com definition.)

Multi-Track: In traditional recording technology, the ability to layer multiple different audio signals at once. In MIDI software, the ability to layer numerous MIDI data streams, including multiple audio tracks, a video track, etc. (Definition based on <http://www.cakewalk.com/tips/desktop-glossary.asp> definition.)

Streaming Media: The process by which multi-media files (e.g., audio files, video files, and music files) are delivered through the Internet. Such files are often very large, tens or hundreds of megabytes in size.

Syncopation: A style used in order to vary position of the stress on notes so as to avoid regular rhythm. Syncopation is achieved by accenting a weak instead of a strong beat, by putting rests on strong beats, by holding on over strong beats, and by introducing a sudden change of time signature. This style of composition was exploited to fullest capabilities by jazz musicians, often in improvisa-

tion. (Definition based on www.geocities.com/BourbonStreet/Delta/4688/glossary.htm definition.)

ENDNOTE

- ¹ The authors thank Ruth Joseph for her help with The State of Massachusetts' Language Arts Framework.