

# Technology Integration in a Southern Inner-City School

**E****Molly Y. Zhou***Dalton State College, USA***William F. Lawless***Paine College, USA*

## INTRODUCTION

The infusion of technology into education is not new, but its effectiveness in inner city schools remains a challenge. Technology-use related issues in schools have been identified and discussed by Caspary, Kusserow, Lavin, and Moveaasaghi (1999), such as efficiency, management, budgeting, funding, and professional development. Still, the use of technology in teacher education has been demanded by The National Council for Accreditation of Teacher Education (NCATE) in its six NCATE Unit Standards, strengthened by its partnership between higher education institutions and K-12 schools (NCATE, 2008). However, aligning the integration of technology with NACET standards raises several questions: How are the resources for technology being used? Does new technology in inner-city school systems improve the academic achievements of disadvantaged students? and, What are the best practices with technology to close the gap between suburban and inner-city students? We approach these questions through a case-study of practices by teachers in an inner-city elementary school in South GA.

## BACKGROUND

Inner-city school Y in our research study is located in X County, GA,<sup>1</sup> one of the lower ranking counties for K-12 education and with a diverse population. The County enrolled more than 32,000 students and ranked 156<sup>th</sup> of the State's 164 school districts. Over 45% of the residents in the county are minorities. African Americans in the county population are over 30%, 2.5 times the national average (US Census Bureau, 2012).

School Y, in the same County, is a K-5 elementary school with an enrollment of 500 students, 90% being African Americans, 8% European Americans, and 2% Hispanics. The school employed about 35 teachers and 20 staff workers. A majority of the teachers were African Americans.

Of those teachers who participated, four were in-service (veteran) teachers and female, two European Americans and two African Americans. There were four pre-service teachers, all of whom were African Americans, one male and three females.<sup>2</sup>

We used semi-structured interviews, a qualitative approach (Glaser & Strauss, 1967). Interviews were conducted in the Fall 2011 term on school Y's site. Each interview lasted fifteen to twenty minutes. In addition, other data included observations. The interview data were coded to protect the identity of the participants.<sup>3</sup> The constant comparative method was used to code emerging themes and patterns (Patton, 2002). Interview transcriptions were reviewed and approved by interviewees.

Our qualitative study used constructivism in building knowledge as its theoretical framework. Constructivism is a theoretical view of teaching and learning (EBC, 2004). It emphasizes the active participation of the learner to construct an understanding of concepts. In addition, from a theory of cognitive dissonance in learning, ownership of new ideas and concepts is necessary to overcome the reluctance to reject incorrect or inferior ideas (Lawless et al., 2011).

The traditional approach is one-size fits all. Its success has been uneven with inner-city students for several reasons. The traditional learning approach has not been able to engage students adequately due to its low cultural relevancy, poor retention rates of knowledge, and passive engagement of students. Inner-city

children come from non-traditional backgrounds with needs that call for constructive methods and strategies of teaching and learning that more actively engage students.

Constructivism has been able to teach students the skills for success in the 21<sup>st</sup> Century, including with the technology essential to compete for jobs in a global market. Educators (Banks, 2008; Bennet, 2011; Kauchak & Eggen, 2011) believe that to teach inner-city students effectively, teachers need to use instruction based on student strengths. Furthermore, the integration of technology into instruction enhances learning, motivation, and more parental involvement (Intel, 2010; Johnson, 2008; Jansen, 2011).

Baker (2003) found that technology had increased dialogue between administrators, support staff, and teachers; provided an impetus for school districts to purchase computers and technology resources; and offered an opportunity to monitor the effective use of technology and learning.

Johnson (2008) maintained that the use of websites for lesson planning and the availability of activity templates from the Internet provided extended resources for teachers. With them, inner-city school children benefitted in two ways: First, it kept them active in learning, giving them the ability to hone problem-solving skills. Second, it gave them the technological skills for the future.

The development of these skills motivated learning in other subject areas. Bethea (2008) found a correlation between prior computer skills and mathematics, science, and computer programming learned in the classroom. And he found that the experience enhanced self-confidence in technology and learning. Another study on environmental science classes found that technology in the curriculum improved self-efficacy, interest in the topic, and content knowledge (Barnett et al., 2011).

However, technology has not been integrated into education effectively. Heravi (2009) found that the lack of access to computer equipment, the need for specialized training with computers, and teacher dispositions toward technology contributed to its low use for instructional purposes. Jansen (2011) concluded that the integration of technology in schools was far behind in business and medicine. Many schools are struggling to integrate technology into the curriculum and failing to educate inner-city students for jobs or college (Eduventures, 2010; Bowman, 2012).

## MAIN FOCUS OF THE ARTICLE

We focus on technology integration in the classroom for an inner-city school. We examined its use of computer technology. In-service teachers employed by the school during 2011-2012 and pre-service teachers who student taught during the FA 2011 term were interviewed, producing qualitative data. Following the interviews, we discuss issues, controversies and problems.

In the study, four in-service teachers (two European Americans and two African Americans, all female) and four pre-service teachers (all African Americans, one male and three female) participated in semi-structured interviews. Participants in the study were asked these questions:

- Has technology helped in strengthening the academic learning of your students?
- Has your training in technology sufficient to integrate technology into the curriculum?

As a Title I school, school Y was provided with technology for teachers and students. Each classroom had at least one computer, a Promethean board (an interactive “smart” or white board), and over-head projectors and TVs in a majority of the classrooms. Overall, attitudes towards the new technology in the classrooms were supportive.

School Y began to introduce the advanced smart-board technology into the classroom about two years ago. As a result, every classroom had a Promethean board. The teachers seemed to welcome the availability of this technology in their classrooms for teaching and learning.

During the conversation with the first grade teacher, a European American, Ms. II, stated that

*I do not have a lot of background with technology. I've just used it in the last two years. I've used the Promethean board, but I've had to have so much practice to use it. It helped my [students] to become better and stronger at using the Promethean board, and of course the computers and everything. If they feel more comfortable with the mouse and the pen on the Promethean board, and things of that sort, it's really made them more excited about learning. It's more interactive and hands on. They really get to be part of the learning. You know instead of just sitting there all the time, they get to do different things.*

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