Chapter XXXIX
K–20 Technology Partnerships in a Rural Community

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ABSTRACT

Public schools need to address issues of 21st century literacy, which go beyond reading and mathematics to include teamwork and technological proficiency. The authors have worked collaboratively to develop K-20 technology partnerships that provide 21st century learning to benefit all stakeholders. In this chapter, the authors discuss three of these partnerships and the benefits and barriers associated with them. Lessons learned included the need for: 1) immediately available technological and pedagogical support; 2) formalized roles and responsibilities between K-12 and university partners; 3) personnel who can take over a role or responsibility in emergencies; and 4) opportunities to plan ahead together. The authors hope that their lessons learned can inform other K-20 collaborations as they develop innovative 21st century partnerships through the use of technology.

INTRODUCTION

How is technology integration conceptualized and what does it look like in the 21st century? As costs have come down and availability has gone up, why aren't digital inequities disappearing? Now that we have integrated technology into teacher preparation programs, are we seeing an impact

in K-12 education? These are questions faculty in the School of Education at Elizabeth City State University grapple with in our daily work. One response to these questions has been to increase our K-20 collaborations in technology.

Any discussion of technology integration has to begin with the more basic issue of student learning. What do students need to learn to be successful citizens in the 21st century? In other words, what constitutes 21st century literacy? Various authors have different ideas, but most educators agree that communicating effectively, collaborating with others, and evaluating information and ideas will be essential. Technologically, proficiency in applications such as word processing, spreadsheets, data bases, and presentation programs is a necessary but insufficient condition for the 21st century. As machines become more and more essential in our daily lives, Prensky (2008) suggests that programming will be become the essential literacy skill—the future will belong to those who can control the machines. We do not presume to know the future, but as we once again call our 14-year old to help us use our television and telephone, we suspect that Prensky may be right. Certainly, as Alvin Toffler (as cited by Salpeter, 2003) stated, the ability to learn, unlearn, and relearn has become a critical literacy skill.

As teachers and teacher educators, we are always concerned about issues of educational equity. Access to not only technological resources, but all educational resources is impacted by race and socio-economic status (Kozol, 1991; Leigh, 1999; Rebell, 2008). As No Child Left Behind (NCLB), the current federal accountability system, focuses almost solely on basic skills in reading and math, our schools have responded by increasing the resources devoted to these basic skills. This narrowing of the curriculum has had a host of unintended negative consequences (see Jones, Jones, & Hargrove, 2003; Orfield & Kornhaber, 2001). Perhaps the most insidious is learner disengagement (Nichols & Berliner, 2008). Unfortunately, this reallocation of resources is most likely to occur in high-poverty, predominately minority schools. Ironically, even though schools have limited their educational focus to basic reading and mathematics instruction in response to NCLB, evidence suggests that the reading and math skills of children are not improving (Lee, 2006, Nichols & Berliner, 2008). Meanwhile, the children in these schools are the same children who are least likely to have other opportunities to learn the kinds of skills that they will need to become productive 21st century citizens.

In addition to our concerns about educational equity for groups of children, we are also concerned about educational equity as it relates to individual children. We believe all children have a right to learn. This requires that we provide an education that is appropriately challenging to them. Along with the reallocation of resources to focus on basic skills in reading and math, we have seen reductions in funding for services to children with disabilities and children with academic gifts and talents (U.S. Department of Education, 2007). This has resulted in classroom practices that attempt to address the needs of students in the low-average to average range, but neglect the critical learning needs of children at the high and low ends of the ability spectrum.

However, these basic skills are neither the traditional foci of American education that they are proclaimed to be nor are they the only skills that stakeholders value (Rothstein & Jacobsen, 2006). Critical thinking, problem solving, computer and technology skills, social skills, teamwork, innovation, and creativity are also considered to be important educational outcomes (Partnership for 21st Century Skills, 2007). These skills and attributes are best attained when students are active, collaborative participants in the educational process (Lisowski, Lisowski, & Nicolia, 2006). We believe that the innovative use of type II technology can help us to overcome some of the challenges that current teaching realities present to us. We envision classrooms where technology is used to infuse and transform the learning process,