

IPODS AND XYLOPHONES

Dr. Daniel C. Johnson, assistant professor in the music department, studies different ways of teaching music that foster students' critical thinking skills. Two particular research projects exemplify his research linking music instruction via technology enhancements.

In an on-going research study involving approximately 200 UNCW undergraduates in a basic studies course he designed, Johnson is investigating the effect of extra-curricular music listening assignments on students' abilities to describe music. Using preliminary results from this study, Johnson demonstrated that repeated music listening using iPods results in significantly enhanced abilities to describe unfamiliar musical examples.

Johnson is also a nationally certified teacher-trainer in the Orff-Schulwerk approach to music and movement education.

This innovative pedagogy focused on creative and critical thinking, is based on what children do naturally, such as sing, chant and dance. Closely allied with learning language, this approach highlights the experience of making music before the formal reading and writing of music, also known as "sound before sight." The focus is on interactive and participatory experiences such as moving, chanting, singing and playing

instruments (xylophones, glockenspiels, drums, etc.) This approach is based on the work of Carl Orff, a German composer and music educator. Through this process, Johnson reinforces the many ways that music is intrinsically connected to literacy and language development.

Johnson employs the Orff-Schulwerk approach when teaching music to about one hundred predominantly Hispanic elementary school children in after-school programs at two New Hanover County schools. Johnson's instruction is part of the OLAS and ASPIRE programs, two federally funded 21st Century Learning Grant projects. In addition, he directs the Orff-Schulwerk Program at UNCW and offers in-service training and certification courses for area music teachers throughout the year. Anecdotal results from this on-going project include very positive parent, teacher and student feedback. Statistical analyses of achievement data are in progress.

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Dr. Tracy Hargrove evaluates the effectiveness of personal laptop use in elementary schools

LEARNING WITH LAPTOPS

Research suggests that when students have access to a personal computer, they are more motivated to learn and academic achievement increases. Drs. Tracy Hargrove, Kathy Fox and Kathleen Roney, of the department of curricular studies within the Watson School of Education, are currently conducting an external review of the North Carolina 1-2-1 grants for the North Carolina Department of Public Instruction (DPI). Dr. Hargrove serves as principal investigator of the project. The NC 1-2-1 Program is a one-year grant program, funded through a No Child Left Behind (NCLB) Enhancing Education Through Technology (EETT) grant. The group began work on the review in August 2005.

The 1-2-1 grant is based on the premise that an improved teaching and learning climate, increased student motivation and

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higher student achievement occur when each student has access to a personal computer for his or her own use throughout the school day or during a specific class or course of study. These grants have provided additional hardware to each school so that the participating grade level either has one computer for every student or one computer for every two students. This study is designed to measure both motivation and academic achievement.

The goal of the NC 1-2-1 program is to prepare students to enter the world of higher education and work with a history of technology literacy and academic success. Four elementary schools in North Carolina were awarded 1-2-1 grants. Each school has been assigned an external evaluator—Fox, Roney or Hargrove—who visits four times during the school.

Hargrove, Fox and Roney will use quantitative and qualitative measures to evaluate the success of the grants over a three-year period. Quantitative measures include the administration of a variety of standard instruments. Qualitative data will be gathered via student and teacher self-report as well as on-site observation by researchers. The hypothesis to be tested is that the integration of technology into instructional practice will make a significant difference in student achievement, attitudes, values and behaviors.

“We are collecting the same quantitative data from four comparison schools. Each school receiving grant money was matched to a comparison school. Schools were matched by controlling for a number of demographic variables including school size, and the percentage of students in various categories identified by No Child Left Behind such as ethnicity, socio-economic status and English proficiency,” notes Hargrove. Environmental factors, including principal’s leadership style and school population characteristics will also be considered. Leadership style instruments will be used to assess whether a principal’s leadership style influences the success of technology programs. This study also examines the effect of school technology programs on the utilization of technology in the home. Parents will be asked to complete a survey twice each year and a sample of parents will participate in an interview.

“We have not finished collecting or analyzing quantitative data, but qualitative data suggest that students are more motivated to engage in academic activities and are developing a more positive attitude toward learning,” says Hargrove.

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Elementary school students in NC 1-2-1 grant-funded programs have access to laptop computers equipped with Internet access and appropriate software throughout the day. Research suggests that these students are more motivated to learn and their academic achievement improves as a result.

