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THROUGH TEACHING

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Collaboration: The Key to Success

Jane H. McHaney, Professor of Elementary & Early Childhood Education

This is one of the first stories about a professional development school in Cobb County, one of several partnerships between school districts and Kennesaw State College's School of Education. The Holmes Group (1986) described the professional development school (PDS) as more than a laboratory school, a model school, or a setting for clinical supervision of novice teachers. Regardless of the designation, professional development schools are intended as sites at which high quality teacher induction is provided along with continued focus on professional development and improved practice.

The professional develop-

ment school described in this project met the majority of descriptive characteristics found in the literature including: involvement of the entire school in the education of in-service teachers; a representation of pupils from various economic, geographic and ethnic backgrounds; collaboration between college and school personnel; and a commitment to reflective practice.

The Project

Project PEACE: Parent Education and Child Empowerment was initiated during the 1993-94 school year to provide effective parenting classes for parents who had children enrolled in Kennesaw Elementary

School. The parenting class was taught by Bret Smith, a licensed therapist for the Relationship Enrichment Center. Mr. Smith donated his time to teach parents how to utilize the STEP (Systematic Training for Effective Parenting) program. While the parents were in class, their children, ages 2,3, and 4, were receiving educational experiences taught by Kennesaw State College preservice teachers enrolled in a graduate non-degree course ECE 561, Methods for Grades P-5 as part of their initial certification program.

As instructor of the course, I supervised the preservice teachers as they planned and implemented the educational activi-

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Teaching Conference set for KSC April 28-29

Kennesaw will host the second annual Georgia Conference on College and University Teaching in April. The conference was inaugurated last year by a statewide committee of faculty developers from University System schools under the leadership of Don Forrester.

Approximately 150 faculty and administrative colleagues from around the state will share information about teaching strat-

egies, diversity and new technologies. Four themes provide focus for this year's conference: "Getting to Know Ourselves and Our Students," "Strategies for Engagement," "Technological Applications for Engagement," and "Technologies in the Classroom."

Conference presenters come from 16 colleges and universities throughout Georgia and represent a wide range of disciplines.

The presentations will be "hands-on" sessions about how to incorporate innovative, practical and productive teaching methods into the classroom. There will be ample time set aside to share ideas and techniques among presenters and participants.

Space is limited, so registration is on a first-come, first-served basis. Details about registration can be obtained through the CETL office.

(What I Did With My Summer Stipend)

Learning Differential Equations Through Computer Experiments

Sean F. Ellermeyer, Assistant Professor of Mathematics

This past summer, supported by a faculty summer stipend, I designed a computer laboratory-based course in differential equations. My goal was to allow students to conduct computer investigations which would reinforce the main concepts of the subject and lead to the discovery of connections and new concepts.

My main work was the development of appropriate computer experiments and the writing of supplemental material (handouts) which would help students to synthesize the theoretical results of the subject with phenomena observed on the computer. I taught my newly-designed course for the first time in the Fall 1994 quarter.

The focus of the course was the construction and manipulation of mathematical models. A mathematical model is a set of equations that describe the interdependence of the various components of a given system.

When the modelling of a system involves describing the rates of change of its various components, the equations which make up the model are differential equations. Because of their importance in modelling, differential equations have been and continue to be a very active area of mathematical research—an area in which the use of computers has come to play a vital role.

Before computers, it was not practical (and in many cases not possible) to compute these numerical solutions. Today, the easy availability of computers has eliminated the necessity to restrict the study of differential equations only to theoretical analysis.

The course I designed to take advantage of this computerization met one day in the class-

room and one day in the computer lab each week. Classroom days were used mainly for lecturing on theoretical material and for helping students to work carefully through the mathematical details of theorems and homework problems.

On lab days students investigated concepts currently under consideration. Each student worked at his/her own computer on a specific experiment that everybody was to try. Students volunteered to share their observations and to explain why these observations were expected based on theory. This often led

to lively discussions and arguments which called for further experiments to be conducted.

In addition to three traditional written exams, three projects were assigned throughout the quarter. The projects each involved an applied problem which called for the use of computation and mathematical theory. For example, the first project involved the construction of a model based on Newton's Law of Cooling which described the fluctuations in water temperature of an outdoor swimming pool in response to the air tem-

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ties with the preschool children. Mrs. Kathy Dudek, Counselor at Kennesaw Elementary School, obtained two grants totaling \$500 from the Cobb County Schools Action Research and the Cobb Commission on Youth. Materials such as a play kitchen, farm animals and puzzles were purchased to enhance the learning experiences for the preschool children.

The collaborative program was held every Monday morning for two hours over an eight week period of time at Kennesaw Elementary School.

Parents were asked to fill out a survey before and after attending the STEP program. Evaluation results indicated that the parents did not see any areas of the program that "needed help." Written comments were very positive as well. The parents stated that they had learned new skills to improve management techniques and felt they could guide their children to be more responsible and that they could handle conflict resolution at

home more effectively.

The preservice teachers (KSC students) evaluated their participation as being a very positive experience. They experienced exposure to classroom teaching earlier than most teacher education programs provide; learned about preschool development; gained a better understanding of the needs of exceptional, at risk, and culturally diverse students; and were able to process their experiences with other practicum students in their class.

Conclusions

The perspective of each individual involved in this project can unfold into discrete and unique versions of the same story. These differences are not only unavoidable but valuable, as they add rich layers to our understanding of what a true collaborative relationship among colleges, public schools and community agencies can be as we continue to explore ways we can work together.