

Wednesday, November 17, 1999



|                                      |   |                      |
|--------------------------------------|---|----------------------|
| 7:30 a.m. - 4:00 p.m.                | REGISTRATION.....                                 | Grand Ballroom Foyer |
| 7:45 a.m. - 8:45 a.m.                | NEW MEMBER AND GRADUATE STUDENT<br>BREAKFAST..... | Skylounge            |
| 9:00 a.m.-9:50 a.m.<br>Session W#001 | AT-RISK STUDENTS<br>(Discussion Session).....     | Salon A              |

**PRESIDER:**John Enger, Arkansas State University

### **A PRINCIPAL'S REFORM OF A SCHOOL ON ACADEMIC ALERT**

Carol A. Mullen, Auburn University, and R. Lynne Patrick,  
Paterson Elementary School (AL)

A researcher and principal studied the dramatic change in student achievement within a school on academic alert. This K-6 inner-city school serves two federal housing projects that happen to be home to rival gangs. Improved test scores caught the attention of administrators and the media. The school has been applauded for overcoming its poor image as the lowest achieving elementary school in Alabama. Although recognized as the most improved school in the Montgomery Public School system, it is still on academic alert. To avoid state takeover, the school's SAT-9 scores need to increase. Despite this barrier to success, the school has become a positive marker of urban school renewal.

This study was established to determine how a school on academic alert has been strengthened. Research questions were: (1) What principles are at work in the changes the instructional leader has instituted at her school? (2) What actions did the principal take to improve the school climate? and (3) Is there lasting substance to this principal's work, or is this simply a story of dramatic gestures that have captured the imagination of the media?

The researcher shadowed the principal by visiting the school and engaging her in conversation and writing. Other data included an analysis of audiotaped and transcribed sessions, and school documents. The study identified seven strategies that the principal employed for improving her school's climate: applied a philosophy of discipline and management, resourced support systems, precipitated staff changes, created rituals of visibility and relationship, applied Maslow's hierarchy of needs model, designed new educational and remedial programs, and developed a case for year-round schooling.

The findings suggested that this principal's school could become a model to show that poor inner-city children can learn with all of the appropriate programs in place and with a team of highly effective practitioners.

### **THE EFFECTS OF SCHOOL ENGAGEMENT/DISENGAGEMENT ON HIGH SCHOOL OUTCOMES: AN ORDINAL REGRESSION ANALYSIS OF 1988-94 NELS DATA**

Edward B. Reeves, Morehead State University

Finn (1993), McNeal (1995), and others have argued that student engagement/disengagement with school-related activities affects educational outcomes. The present study tested this argument using a relatively new statistical technique, ordinal regression (Magidson, 1996). The data were taken from the 1988-94 National Education Longitudinal Study Database. High school outcomes, the dependent variable, was rendered in categories ranked from most to least preferred as follows: (1) received high school diploma, (2) received GED, (3) pursuing GED/high school diploma, and (4) not pursuing any.

An ordinal regression model was fitted with the following predictors: number of extracurricular activities, time spent, and number of friends who have dropped. Other predictor variables--such as gender, race, family structure and SES, public versus private school, student ever held back a grade, grade point average, and normed test performance--were also included in the model.

The analysis found that the outcome categories were ranked ordered as hypothesized.



Furthermore, the three less preferred outcomes were distant from the most preferred outcome, high school graduation. This meant that the model was especially effective at differentiating high school graduation from the less preferred outcomes. Number of friends who have dropped out of high school was the leading engagement/disengagement predictor, followed by time spent in extracurricular activities each week. Number of extracurricular activities in which the student participates was a weak but still significant predictor. A surprising finding was that school engagement/disengagement variables were more important predictors of high school outcomes than GPA and normed test performance or family SES variables.

The results supported McNeal's claim that extracurricular activities lead to preferred educational outcomes. Encouragement of greater involvement by at-risk students results in an increased likelihood of graduation rather than another, less preferred outcome. Directing at risk students away from relationships with dropouts also yields a preferred outcome.

**THE EFFECT OF CURRICULUM MODIFICATIONS FOR AT-RISK STUDENTS ENROLLED IN ENGLISH III**

Dianne M. Sawyer, Tennessee State University

The purpose of this study was to investigate the effect of curriculum modifications for at-risk students in English III (eleventh grade). Because there seems to be a growing number of at-risk students and because high schools in Tennessee have been mandated by the state to reduce the drop-out rate to 10% by the year 2000, it is crucial to continue addressing the problem of students who are at risk.

A review of literature revealed that programs including curriculum modifications have been implemented by a variety of school systems in an attempt to reduce the drop-out problem and/or to assist students who are at risk of failing. The review of literature focused on the need for curriculum modification for at-risk students, direct results of curriculum modifications for at-risk students, and case studies that concern at-risk students.

Historical data were collected through high school transcripts of both the control group and the experimental group. Data recorded included gender, ethnicity, social economic status, attendance, age, IQ, first semester grade, second semester grade, and group classification.

A multiple regression using a .05 level of significance was run to determine the correlation between the second semester scores and the first semester scores, in addition to gender, ethnicity, socioeconomic status, attendance, age, IQ, and group classification.

The results of this study revealed that there was a significant difference in scores of at-risk students who received curriculum modifications and at-risk students who did not receive curriculum modifications.

Results led to several recommendations, which included early identification of at-risk students, modifications in curriculum, and further study in this area.

**9:00 a.m.-9:50 a.m.                   TEACHER EDUCATION**  
**Session W#002                   (Discussion Session).....Salon B**

**PRESIDER:**Jeffrey Gorrell, Auburn University

**TENNESSEE TEACHER EDUCATION FOLLOW-UP SURVEY: PATTERNS OVER SEVEN YEARS**

Carol Plata Etheridge and L. Weiping Wang,  
The University of Memphis

First-year teachers' perceptions of their preparation in Tennessee institutions were surveyed by their graduating institutions in the spring of the first year after graduation over seven years. The goal was to determine (1) satisfaction with various dimensions of preparation, (2) changes in perceptions, and (3) perceptual changes in relation to state policy changes. Data were collected from 5,563 first-year teachers graduating from 15



Tennessee institutions using the Tennessee Teacher Follow-up Questionnaire (TTEFQ).

The TTEFQ is a close-ended questionnaire containing items pertaining to respondents' demographic characteristics and program components. The instrument is a modified version of the National Database for Teacher Education Program Follow-up instrument long form, and items are consistent with Tennessee and the National Council for Accreditation in Teacher Education (NCATE) standards. The TTEFQ contains four subscales: general education, field experience, professional core, and teaching skills. Respondents are asked to rate various dimensions of their preparation by using a six-point Likert-type rating scale.

Preliminary analyses suggested that Tennessee graduates were generally satisfied with their preparation after one year of teaching except in areas related to technology, special education, and dealing with diversity. However, ratings of these areas showed a consistent pattern of increasing satisfaction over the seven years of the survey. In the areas of physical education and fine arts, levels of satisfaction have consistently declined.

These data trends are consistent with changes in Tennessee policy related to teacher education program content and areas of emphasis. Patterns exhibited by the data suggest that, though trailing state policy changes, areas of emphasis and content in teacher preparation curriculum change as state policy emphasis changes.

This is contrary to the often articulated view that teacher education is intractable and gives only minimal response to calls for change.

### **IT'S ALIVE, IT'S ALIVE . . . BUT IT MAY NOT BE WELL**

Melissa E. Whiting and Jack Klotz, University of Southern Mississippi

This discussion focused on the array of educational hoops that institutions, located in a state (Mississippi) where an acknowledged teacher shortage has now become an absolute fact rather than a pessimistic prediction, must immediately jump through in order to produce the "quality" teachers needed to equitably educate its state's students. The discussion presented the current history and situation precipitating the urgent need for new teachers who can immediately fill in the gaps created by teachers who have, in astounding numbers, recently left the Mississippi public school system, and it tapped into the dire predictions and resulting statistics that indicate that this teaching shortage will only continue to grow, despite the implementation of new programs designed to add to the teaching force. From this given situation and vantage point, the rationale was outlined for the newly instituted Masters of Arts in Teaching degree program (MAT) in the state of Mississippi that proposes yet another "solution" to the teacher shortage.

The state teacher-education programs that have already completed the first year of this program were looked at and then the evident and not-so-evident problems that have already obstructed its inaugural year were discussed. In addition, the paper focused on and analyzed some of the institutional barriers that could prevent this program, and programs similar to it, from realistically addressing the pressing pedagogical concerns requisite to not only teacher training but to related issues connected to teachers meeting the goal of students' academic success. Thus, from not only a practice oriented, but a grounded theoretical perspective, were identified some of the overriding problems that prevent programs such as the MAT from finding its much needed success. Also offered were concrete suggestions that could allow for a logically sound and pedagogically concerned program that gives new teachers advantageous tools for classroom survival.

### **MAINTAINING QUALITY IN TEACHER EDUCATION: WHO IS RESPONSIBLE?**

Lynetta Owens and Cynthia H. Harper, Jacksonville State University

Implementation of a system for quality control is imperative for the future of teaching. This system must begin at the university level and spread to the school environment where students actually practice what has been learned at the university. With the growing emphasis placed on clinical field experiences in the professional development of teachers, concern over the effectiveness of the supervision process used with preservice teachers has also increased. Many consider field experiences in teacher education programs, especially student teaching, the most influential aspect of the education of prospective teachers, providing the greatest



potential opportunity for learning and thus contributing to the future success of teachers. This causes significant importance to be placed on students enrolled in the internship semester at the local school. In addition to placement in the public schools, serious consideration must be given to factors involved in the assignment of cooperating teachers and university supervisors responsible for evaluation of the student intern.

For effective supervision and evaluation at this institution, this study has selected specific indicators from semester evaluations completed by students, cooperating teachers, and university supervisors that have proven to be crucial in measuring effective student teaching practices. Consequently, students graduating from this College of Education and Professional Studies rank significantly higher in academic preparation for beginning teachers. Further, surrounding states recruit heavily from this university's graduates due to the high level of preparation and vast array of clinical experiences. Findings show that there is a significant relationship between student success in the internship semester and high ratings received by cooperating teachers and university supervisors on the evaluation forms. First year teacher review by the state department of education confirmed the results of these evaluations.

Session participants will be informed of specific indicators used by one university that successfully measure quality in observation and evaluative techniques of student teachers. Session leaders will disseminate data from a five year study that identifies specific observation and evaluative measures used to document quality supervision within field experiences. Data from students, cooperating teachers, and university supervisors generally agree to positive, quality, and effective supervision or negative, ineffective supervision. Evaluation instruments will be shared with session participants.

**9:00 a.m.-9:50 a.m.                    SCHOOL RESTRUCTURING AND EDUCATIONAL REFORM**  
**Session W#003                        (Discussion Session)..... Salon C**

**PRESIDER:**Lynn Howerton, Arkansas State University

**THE EXODUS OF BUILDING PRINCIPALS FROM RESTRUCTURING  
SCHOOLS: WHERE DID THEY GO?**

Beverly M. Klecker, Eastern Kentucky University

Personnel in Ohio's Venture Capital Schools submitted self-designed restructuring plans to the state legislature for funding. In the first two rounds (1993-94), 307 schools were granted \$25,000 per year, renewable for five years. Demographically, the grade level of funded schools was representative of schools in the state; however, the gender of the building principals was not representative. More female principals than expected were leading Venture Capital Schools. Surprisingly, after the first year, 30% of the 307 principals left; at the end of the second year, another 30% left; at the end of three years, the total attrition rate was 70%.

Researchers surveyed the 307 principals in 1995; 168 responded to an "openness to change " instrument. Demographics of these 168 principals were representative of those in the 307 schools.

Questions used were: (1) Was the attrition rate in the group of 168 principals the same as for the population of 307? (2) Were there demographic differences among principals who left (e.g., school level, region of state, gender of principal, years of service of principal)? and (3) Why did the principals leave?

The names of the principals responding to the original study were compared with names of principals currently employed in the Venture Capital School (from Internet). The original data were recoded to identify "leavers" and "stayers." Chi-square tests of goodness-of-fit were used to explore differences by demographics. A stratified random sample (gender and level) of "leavers" was contacted by telephone.

The attrition rate for the 168 principals was no different from that of the 307. There was a difference by school level; more elementary principals stayed. There was no difference by gender. Reasons for leaving were described. Implications were discussed.

**THE IMPACT OF ONE SCHOOL DISTRICT'S CHANGE FROM A TRADITIONAL SCHOOL  
CALENDAR TO AN ALTERNATIVE ACADEMIC CALENDAR**



Paige L. Tompkins, Western Kentucky University

The researcher compared school district data from before the inception of an alternative academic calendar to data after its inception to help determine the impact of shifting away from a traditional school calendar on the following four areas: attendance, discipline, student achievement, and student, parent, teacher satisfaction.

The school district used in the study was the Bowling Green Independent School District (Bowling Green, KY), which implemented an alternative academic calendar during the 1998-99 school year. The district has six elementary schools, one middle school, one high school and serves about 3,500 students. The alternative academic calendar provides 175 instructional days, broken down into four quarters of roughly 44 days each; three two-week breaks after the fall, winter, and spring quarters; and an eight and a half-week summer break. Intercession remediation is offered during breaks.

In order to address the areas of attendance, discipline, and student achievement, data were collected from the 1996-97 and the 1997-98 school years, which were subsequently compared to 1998-99 school year data. To assess student, parent, and teacher satisfaction, three separate surveys were created by the district and then administered to each of the three groups respectively.

For the first three research areas (attendance, discipline, and student achievement), descriptive statistics were used to illustrate differences between years prior and years after implementation of the alternative academic calendar. Similar descriptive techniques were used to denote student, parent, and teacher satisfaction with the alternative academic calendar. Conclusions within each research area regarding the impact on the district of changing from a traditional school calendar to an alternative academic calendar were drawn as suggested by the data. Implications for school districts exploring changes to the traditional school year were included.

**SUPPORTING REFORM: LESSONS FOR THE URBAN SYSTEMIC INITIATIVE**

Scott C. Bauer and Caroline Cody, University of New Orleans

This paper dealt with the evaluation of one city's comprehensive school reform program sponsored under the National Science Foundation's Urban Systemic Initiative. Using total quality and the principles of organizational design as a framework, the evaluation investigated both the district's capacity for change (vision, management processes, human resource development) and accomplishments (changes in classroom behavior, learning outcomes).

A multi-method approach was taken to conduct the evaluation. A document analysis was conducted to summarize project activities and accomplishment. Assessment of district capacity involved interviews with central office staff involved in the initiative, school administrators, and focus groups of teachers. Additionally, staff surveys were used to determine the generalizability of staff perceptions. Assessment of accomplishments included reviewing existing data relating to student performance and achievement, and collecting data through classroom visitations in 29 schools.

Results indicated that district-level support for school-based change was an ongoing issue. Specifically, lack of alignment of purchasing processes with classroom activities, and insufficient school-based funding to support expanded use of hands-on activities, interfered with progress in implementing a standards-based, more learner-centered curriculum. Mechanisms for delivering staff development were also a major issue; pull-out programs and summer staff development was seen by school staff as inefficient and inadequate as compared with more tailored, school- and classroom-based activities.

The specific lessons derived from these data are important to understand to develop a fuller appreciation for the issues associated with scaling up school reform. Further, the evaluation process is important; consistent with the quality framework, all levels of the school system were examined both in terms of their contribution to change and in terms of their connection to other levels. Organizational products and processes were examined in relation to their interconnectedness and their efficacy in contributing to educational improvement.

9:00 a.m.-9:50 a.m.  
Session W#004

ATTITUDE AND ACHIEVEMENT  
(Discussion Session)..... Salon D



PRESIDER: Gene Franks, Georgia Southern University

**FIRST LANGUAGE ACHIEVEMENT AS A SIGNIFICANT PREDICTOR  
FOR SECOND LANGUAGE ACHIEVEMENT**

Julia A. Tirres, Tennessee State University

The study examined the permanent records for the graduating class of 1998. The researcher hypothesized that students' first language (L1) achievement does not significantly predict their second language, L2, achievement.

The sample for the study consisted of 231 secondary school seniors. The data were collected from 222 records available in the school archives. The data included eight variables. L2 was the dependent variable, and L1, ACT, SAT, TCAP, attendance, gender, and race were the independent variables. The sample consisted of 112 male and 110 female students. The ethnicity of the group consisted of 207 white and 15 black students.

Some of the records had missing data; therefore, the mean of all the variables was used to include all the subjects that had no data. A matrix was created, and the data were converted into a text file. A stepwise multiple regression was run on SPSS with an alpha of .05.

The adjusted R<sup>2</sup> indicated that 39% of the variability can be explained by the L1 in relation to the L2 in step 1. L1 and ACT explain 6% of the variability in relation to the L2 in step 2 of the stepwise multiple regression. In the ANOVA's final model with an alpha of .05 was statistically significant  $F(2, 219) = 91.654, p = .0004$ . The following suggestions are stated for consideration: (1) that majority students, English speakers, deficient in L1 will be identified in elementary school, (2) that guidance counselors check L1 GPA before scheduling students with low L1 GPAs, (3) that L1 and L2 teachers cooperate to help students with L1 deficiencies, and (4) that a study with a more representative population be made to generalize the findings.

**THE USE OF FACTOR SCORES OF INCLUSION BELIEFS/ATTITUDES IN THE  
PREDICTION OF KNOWLEDGE AND SKILLS AMONG SPECIAL EDUCATION,  
ELEMENTARY EDUCATION, AND SECONDARY EDUCATION STUDENTS**

James Mainord, Kathleen Atkins, and David Naylor, University of Central Arkansas,  
and James Whorton, University of Southern Mississippi

Although studies have demonstrated differences in the knowledge base and beliefs toward inclusion among students pursuing degrees in special education, elementary education, and secondary education, it was not clear which skills and beliefs were responsible for the disparity. Obviously, the training received by special education students contributed largely to the differences.

The present study was conducted with a population of 230 teacher education students pursuing undergraduate and graduate degrees at the University of Central Arkansas. The population consisted of 94 undergraduate students and 136 graduate students in special education, elementary education, and secondary education. The students responded to the Inclusion Beliefs and Knowledge Questionnaire, which consisted of a 14-item knowledge/skills component and a 20-item beliefs/attitude component. A factor analytic solution was chosen for this study to summarize and to integrate arrays of data in the correlation matrix of the beliefs/attitude component. The varimax rotation solution reduced the data into a manageable unit by determining the variance that was common to the measures. A second reason for the use of the factor analysis was to obtain computer-generated factor scores for the subjects. Factor scores were actual scores of subjects obtained on the factor. The score represented a linear transformation of the subjects' raw scores concealed in the factor loadings. This score represented an estimated score for the subjects on the factor.

The statistical model used to predict knowledge/skills of inclusion was the multiple linear regression technique. The relationship of the variables in the regression enabled the investigators to determine the amount of variance in knowledge/skills by a linear combination of the factor scores. By treating the data in this manner, the investigators were able to determine the amount of variance in knowledge/skills accounted for by the factors representing the beliefs/attitude measures.



**COMPLETION OF ENGLISH 1 AS A PREREQUISITE TO INTRODUCTORY PSYCHOLOGY**

Anthony J. Guarino, Auburn University, and Jo-Anne E. Schick,  
State University of West Georgia

Introductory psychology courses at community colleges experience attrition rates as high as 60%. To curb this high rate of attrition, some institutions have established an English 1 (college writing) prerequisite. This English 1 prerequisite was instituted because many community college students are deficient in basic English skills. The primary objective of this research was to evaluate the validity of completing English 1 as a prerequisite to an introductory psychology course at community college.

Participants were 11,139 students enrolled in an introductory psychology class within the last three years at a large urban community college in the southwest. All students were high school graduates, and slightly more than one-half were females (55%). The student population was ethnically diverse: 20% white; 20% Mid-Eastern; 20% Asian; 10% Latino; 5% black; and 25% "Other." Sixty percent of the students planned to transfer to a four-year institution; whereas 25% were undecided about their reason for attending.

A stepwise regression was used whereby predictors were selected in order of importance with both entry and removal of variables possible at each step. Predictive variables were: (1) number of semesters attended, (2) units enrolled while attending Psychology 1, and (3) completion of English 1. The criterion variable was course grade (A to F). Students who withdrew from the course were removed from the analysis.

Results of the stepwise analysis indicated that English 1 accounted for the largest explained variance in final grade ( $R = .187, p < .001$ ). This was followed by units enrolled while attending the Psychology 1 course and number of semesters attended (increases of variance of .004 and .002 respectively for a  $R = .203, p < .001$ ). Implications of this study were discussed for requiring English 1 as a prerequisite for an introductory psychology course.

**9:00 a.m.-9:50 a.m.                   STUDENT MOTIVATION**  
**Session W#005                   (Symposium).....Salon E**

**ORGANIZER:**                   Jenefer E. Husman, The University of Alabama

**PERSPECTIVES ON MOTIVATIONAL RESEARCH AND THEORY**

**Introduction**

Motivation in education is a growing area of interest among both educational researchers and practitioners. As schools become increasingly responsible for the motivational and emotional health of their students, motivational theory has become an increasingly important part of the knowledge base of instructors and administrators. The authors of these papers linked modern motivational theory to developmental and foundational issues in education. It is the intent that these connections expand the audience's understanding of the powerful implications of modern motivational theory.

**An Analysis of Preservice Teacher Perceptions of Instrumentality  
Through the Lens of Epistemological Theory**  
H. Michael Crowson, The University of Alabama

Discussed ways that preservice teachers' epistemological beliefs (Kitchener & King, 1990) may impact their motivation for learning material.

**A Consideration of Moral Motivation and the Effects of Future-Time Perspective**



W. Pitt Derryberry, The University of Alabama

Integrated advances in the literature of both moral and motivational psychology. Specifically, he argued that Future-Time Perspective (Lens & Rand, 1997) and the resultant instrumentality may serve to bridge the gap between moral reasoning and moral action (Blasi, 1980; Kurtines & Greif, 1974).

**Flow and Gender in the Learning Environment**  
Rebecca Michael Ballard, The University of Alabama

Argued that the experience of flow, which lies between boredom/challenge and anxiety/skill (Csikszentmihalyi, 1990) is an experience that may be influenced by one's gender and one's socialization, especially in educational environments.

**The Possibilities of Multiple Perspective Research in Motivation and Self-Regulation**  
Nate McCaughtry, The University of Alabama

Proposed that incorporating multiple modes of inquiry such as interpretivism (Schempp & Choi, 1994) and critical inquiry (Fernandez-Balboa, 1997) may expand the degree to which social cognitive theory can be understood.

Jenefer E. Husman, The University of Alabama, served as discussant for the session and provided a framework for integrating these diverse perspectives on ways that modern motivational theory may be expanded to include developmental and foundational issues in education. Following her brief discussion, a five-to-ten-minute period for audience questions and discussion was provided.

**9:00 a.m.-9:50 a.m. GENDER ISSUES**  
**Session W#006 (Discussion Session)..... Salon F**

**PRESIDER:**Cynthia Gettys, The University of Tennessee at Chattanooga

**A COMPARISON OF UNDERGRADUATE WOMEN BETWEEN GUAM AND JAPAN:  
THEIR GENDER AWARENESS AND STATUS ASPIRATIONS**

Yukiko Inoue, University of Guam

This study examined women's realization toward the quality of life, identifying their gender awareness and status aspirations. The purpose of this study was to achieve a better understanding of how undergraduate women would become aware of gender equality in employment and how that would affect their academic and social status goals. Another purpose was to achieve a better understanding of how the life-course selection of women would be associated with their status aspirations.

University of Guam in Guam and Tokiwa University in Japan were selected as sites for the survey. The survey questionnaire (consisting of five sections: aspirations, awareness, self-evaluation, life-course selection, and background information) was mailed to 350 randomly selected women of each university. Response rates for both sites were 32 to 35%. The participants were asked to rate items on the Likert scale (5 = of utmost importance, 1 = not important at all).

In comparing Chamorro (Guamanian) and Japanese women s priorities of the awareness and aspirations, *t*-tests were used to determine the significant differences for all individual items between two groups; then means and standard deviations were arranged in the descending order. Analysis of variance was used to test the hypotheses: (1) Significant differences exists between Chamorro and Japanese women in the life-course selection, (2) Significant differences exit between traditional and non-traditional aged women in the life-course



selection, and (3) An interaction exists between age and nationality in the life-course selection.

On the assumption that these women, as a group, would show patterns of their awareness and aspirations, the focus of the study was on formulating a statistical profile of undergraduate women. The results and interpretations were documented in detail, along with general implications and future directions of the study.

### **UNDERGRADUATE SCIENCE STUDENTS: WHAT DO THEY WANT TO BE WHEN THEY GROW UP?**

Debbie L. Hahs, The University of Alabama

Can it be determined what the predictors are for students entering and persisting in science-related occupations and if there are significant differences in gender and ethnicity? The purpose of this study was to examine a limited number of variables that have been documented in literature as influential factors for women science majors and determine which significantly influence undergraduate student expectations to obtain science-related occupations.

A survey was administered at a large southeastern research university during February 1999 to students enrolled in the first two required biology courses for majors in biology, microbiology, pre-health, and marine science. One hundred eighty surveys were completed. Of that number, 169 were usable.

The independent variable was whether or not the student expected to work in a science-related occupation. The dependent variables included: course enrolled in, gender, ethnicity, whether or not the guardians worked in science-related occupations, the degree to which the student liked science, and whether the student believed science was important to everyone's life. Because the independent variable and numerous dependent variables were dichotomous in nature, logistic regression was the regression method chosen to conduct the analysis.

The final model generated by the backward logistic regression included the following independent variables as predictors of the student entering a science-related occupation: whether the student liked science ( $p < .001$ ), gender ( $p < .05$ ), course ( $p < .10$ ), and father's occupation ( $p < .10$ ).

The results of this study indicated several factors worthy of attention including some factors contradictory to current literature. These all have implications for future research for educational practices. The findings contributed important information to the existing literature on factors predicting science occupation choice-especially in reference to undergraduate students in their first required science courses. It also raised interest in the possibility that there were significant changes that took place between postsecondary and collegiate experiences.

### **A COMPARISON OF CAREER ASPIRATIONS AND MATH ANXIETY BETWEEN MIDDLE SCHOOL FEMALES IN SINGLE SEX AND COED SETTINGS**

Kathleen T. Campbell, Academy of the Sacred Heart (LA), and  
Yvonne Adler, Susan Beatty, and Judith Scott,  
St. Charles Parish (LA) Schools

Despite a significant increase in the number of females entering math/science careers in the last several decades, females still lag behind males in many math- and science-related fields, such as engineering. The math/science career gap between males and females is important because the prestigious, high paying jobs are in the math and science fields. This gap is also an enigma because females usually outperform males in all subjects, including math and science, during the early years of elementary school. The literature contends that middle school is the critical period when many females lose confidence in their abilities, especially in math and science.

The present study examined career interests and math anxiety levels among seventh- and eighth-grade females enrolled in an accelerated mathematics class. One group of females attended a single sex school, while the other group of females attended a coed school. Subjects were administered Choices, Jr., a career interest inventory, and the Mathematics Anxiety Rating Scale for Adolescents (MARS-A), a self-report inventory on math anxiety. Responses were correlated to determine if there was a relationship between math anxiety and



career interests. The responses from the females in the single sex institution and the coed school were compared to determine whether classroom setting was a significant factor in career interest and math anxiety.

A discussion of the results included generalizations concerning the philosophical differences between single sex and coed schools as well as pedagogical implications for classroom practices.

**10:00 a.m.-10:50 a.m. ADMINISTRATION AND LEADERSHIP**  
**Session W#007 (Discussion Session)..... Salon A**

**PRESIDER:** Debora Adler, University of Central Arkansas

**TEACHER PERCEPTIONS OF THE PERFORMANCE AND PERSONAL QUALITIES OF THEIR BUILDING PRINCIPALS**

Otis K. Lovette, Northeast Louisiana University

This research used a Principal Profile survey form to investigate teacher perceptions of their building principals in the areas of Management, Relationships, Delegation, and Personal Qualities. The survey also asked for several types of demographic information that were analyzed statistically. Items such as size of school, grade levels of school, sex and age of the principal, and sex and age of the responder were included. The survey form was constructed and administered with intent to further refine the instrument through additional administrations and statistical analysis.

Student input regarding the characteristics of effective principals was obtained from teachers who were taking graduate courses in educational leadership during the fall of 1998. This information was supplemented with information from various writings and research studies to develop the survey form.

Students taking graduate courses in educational leadership completed the survey during the spring of 1999. Even though the completed surveys provided a wealth of information that could be used in a variety of ways, those items within the survey that related to empowering-type behaviors were the main element investigated.

The descriptive data provided useful information, and various correlational relationships were investigated. The analysis of responses indicated that these particular principals were not using "empowering type" approaches when leading their schools.

**SUPERINTENDENT COMPETENCIES FOR CONTINUED EMPLOYMENT AS PERCEIVED BY LOUISIANA PUBLIC SCHOOL SUPERINTENDENTS AND SCHOOL BOARD PRESIDENTS**

Michael Peterson and Jack Klotz,  
University of Southern Mississippi

The purpose of this study was to determine if there were differences between perceptions of Louisiana public school district superintendents and school board presidents on the variable of superintendent competencies needed for continued employment. Nine competency areas of superintendent responsibility were identified for the purpose of this study: public relations, school finance, personnel management, curriculum development, policy formulation, school construction, accomplishment of goals set by the Board, superintendent/board relations, and collective negotiations. The study was designed to also determine if the variables of age, gender, years of experience, and district size had an impact on differences of perception held by respondents. Additionally, the study identified those competencies that when performed unsatisfactorily, would most likely cause a superintendent's dismissal. The target population of the study included all superintendents and school board presidents of public school districts in the state of Louisiana. Results of the study were reported based upon an 80% response rate from superintendents and a 75% rate of response from school board presidents.

Within the program's presentation, participants received information on the overall findings of



the study, resulting in conclusions related to continued employment of Louisiana public school superintendents, and recommendations for area of further study relative to this issue.

**REASONS FOR LIMITED TENURE AMONG INDEPENDENT SCHOOL ADMINISTRATORS**

Daniel L. Carden, The University of Alabama

This study researched the reasons for the average tenure of two years among independent Christian school administrators. The independent school progress has generated much discussion in areas of school choice, vouchers, and equality, but a deficiency in the quality and longevity of administrative leaders leaves room for viable questions. Preliminary research in the literature indicated similarities with public school superintendents in the areas of educational training and job descriptions. Major differences of a philosophical nature highlighted a uniqueness of an individual who would accept the independent school position. Many negative consequences were documented relating to a brief term of office for the head of the school.

Both qualitative and quantitative methods were employed in the ongoing study. Random sampling was done to obtain a representation of schools from the Association of Christian Schools International, an organization with over 8000 administrators, to draw a sample size of 500 heads. Focus groups were utilized at administrative conferences to obtain qualitative data that was factored into quantitative surveys. The surveys were then distributed by mail to the recipients. Results from the survey were tabulated and analyzed.

Preliminary results indicated two-fold reasons for departure. Although the majority of the separations were voluntary on the part of the administrator, many administrators were either asked to leave or it was made clear that their service to the institution was not appreciated. Board interference was significant in many of these cases. In the voluntary departures, a critical issue was that of finances with leaders unable to support their families. Upward mobility became a goal.

Implications for training methodology and educational preparation were obvious from this study. When problems were identified, solutions became apparent as well. Additional research is needed to tailor specific recommendations to guide new administrators in the consequences of their decisions.

**10:00 a.m.-10:50 a.m.      TECHNOLOGY AND RESEARCH METHODS**  
**Session W#008              (Discussion Session).....Salon B**

**PRESIDER:**Michele Jarrell, The University of Alabama at Birmingham

**AUGMENTING THE PROBLEM-SOLVING SKILLS OF STUDENTS THROUGH ELECTRONIC JOURNALS**

Jennifer M. Good, Glennelle Halpin, and Gerald Halpin,  
Auburn University

An important objective of any aspect of education is to enhance the problem-solving skills of students, but how to do so has remained a challenge. With advances in technology, new avenues have been opened. Teachers can pose problems, and students can offer solutions using means never before possible. The electronic journal is one new method being employed by teachers attempting to hone the critical-thinking skills of their students. Unfortunately, little research has been completed to assess the utility of this instructional aid . The purpose of this study was to illustrate the use of the electronic journal for dual purposes: to augment the students' problem-solving skills and to provide a medium to evaluate the effect on cognitive growth of having students solve real-world problems in the classroom.

Participants in this study were students (N = 25) in an engineering design course. As the students completed each of three case studies presented during the course, they recorded their thoughts, questions, and reflections in an electronic journal that was submitted to the instructor via e-mail. The



students were asked to complete a series of questions generated to probe their thinking. They were also asked to record their goals, methods, and evaluations of progress during each individual work session.

Using a rubric based on a definition of problem-solving, an independent rater read and coded the journal responses. Examples of problem definition, examples of analysis, and examples of evaluating alternative problem solutions were among the categories used. In addition, the rater also considered statements that demonstrated students' self-evaluations and monitoring of progress as well as evidence of connections between theory and practice.

Through the electronic journals, the students showed evidence of defining their problem-solving skills and refining their thinking abilities. Hence, the study has both instructional and assessment implications for classroom practice and program evaluators.

### **ELECTRONIC VS. TRADITIONAL RESEARCH CLASSES**

Robert L. Kennedy, University of Arkansas at Little Rock

The purpose of the study was to compare electronic mail and more traditional approaches for teaching graduate introductory statistics classes. The electronic course was first offered in the fall 1995 with the fall 1998 semester being the most recently included. There were 13 participants in the electronic classes, 66 in the traditional classes, and 22 in both groups, with a diversity of graduate education students. Multiple-choice pretests and posttests were given, developed from standardized test preparation manuals available for purchase in academic bookstores.

An analysis of covariance (ANCOVA) was run using posttest scores as the response variable and pretest scores as the covariate. Since the ANCOVA technique involves features of both the analysis of variance and regression, assumptions for both were tested using the NCSS statistical program, version 6.0.21. The assumption of random selection was not possible since participation in the electronic mail version of the course was optional. Normality and homoscedasticity across all groups were verified using the Omnibus Normality of Residuals and Modified-Levene Equal-Variance tests. Homogeneity of regression was observed in scatterplots of pretest scores versus posttest scores and their trend lines, by treatment and control groups. Therefore, the assumptions required for ANCOVA seemed to be reasonably well met.

The test indicated that the null hypothesis of no statistically significant difference among the traditional (adjusted mean of 6.96,  $n=66$ ), electronic (adjusted mean of 7.20,  $n=13$ ), and both traditional and electronic (adjusted mean of 7.22,  $n=22$ ) classes' scores could not be rejected at the 0.05 level [ $F(1,97)=0.11$ ,  $p=0.89$ ]. It was concluded, then, that offering the course through electronic mail or a combination of electronic mail and the traditional approach did not appear to hinder the performance of the students to the extent measured by the multiple-choice tests.

### **THE EFFECT OF ADVANCE ORGANIZERS ON ACHIEVEMENT IN GRADUATE-LEVEL RESEARCH METHODOLOGY COURSES**

Denise DaRos, Youngstown State University, and  
Anthony J. Onwuegbuzie, Valdosta State University

In an effort to increase achievement levels in graduate-level research methodology courses, some instructors are using advance and post organizers. However, to date, a paucity of studies appears to exist examining the effectiveness of this instructional technique in these courses. This was the purpose of the present study. Although a myriad of studies has been conducted during the past three decades assessing the effectiveness of advance organizers, few of these investigations have been undertaken at the graduate level.

Subjects comprised 218 students, enrolled in a mid-southern university's graduate-level research methodology courses. Fifty-four students were enrolled in sections in which advance and post organizers were used; 164 were enrolled in sections in which this method of instruction did not take place. Conceptual knowledge, involving students' command of research concepts, methodologies, and applications, was measured individually in



both sets of classes via mid-term and final examinations.

Findings revealed that students enrolled in the advance organizer sections of the course obtained higher levels of overall achievement than did their counterparts. The effect size pertaining to this difference was .54, which is considered moderate. The implications of these findings were discussed, as were recommendations for incorporating advance and post-organizers in research methodology courses.

**10:00 a.m.-10:50 a.m.      EFFECTIVE TEACHERS, EFFECTIVE INSTRUCTION**  
**Session W#009              (Discussion Session)..... Salon C**

**PRESIDER:**Rodney Woods, del' Epee Deaf Center

**THE MASTER COLLEGE TEACHER: CHARACTERISTICS AND BEHAVIORS**

Linda W. Morse, Mississippi State University

What are the characteristics of a master college teacher? Despite the relative lack of research into effective college teaching, the emphasis on quality instruction at the collegiate level remains a top priority at many institutions. The present study investigated effective teaching characteristics demonstrated by college teachers designated as master teachers within their institutions in contrast to previous studies, which solicited student opinions regarding effectiveness.

Utilizing qualitative techniques, the present study employed collection techniques by observation and interview of two master teachers. These individuals were both professors in their respective fields with an average of 25 years teaching experience in higher education. In addition to their designation as master teachers, each had received at least two other major teaching awards. Data was collected from observing the master teachers as they presented typical one-hour lectures. Follow-up interviews were also conducted. The observations were analyzed for (a) effective instructor behaviors demonstrated and (b) effective instructional strategies utilized. Structured comparison matrices between the master teachers and their effective behaviors were made. Interviews were conducted on the master teachers' opinions on effective characteristics and training of pedagogical skills.

Observations common to both instructors involved clarity of explanation, use of teaching objectives, variation in voice, evidence of highly planned instruction, sharing of personal perceptions, use of instructional aids, and skill in question-asking. Effective use of examples was demonstrated, although their styles varied. Each master teacher's involvement in research was evident and was incorporated into the lectures. Humor was used, but not as joke-telling behavior. Finally, the teachers exuded enthusiasm for their subjects.

The implications of this study are (a) the master college teacher exhibits behaviors which can be used to illustrate the mechanics of good college teaching that would aid beginning instructors or those wishing to improve their techniques, and (b) identifying directions for new research.

**EVALUATING INSTRUCTIONAL EFFECTIVENESS**

Howard H. Cochran, Jr., Belmont University; Joachim Zietz,  
Middle Tennessee State University; and Mark L. Wilson,  
University of Charleston

Student evaluations of instructor performance are in wide use across the U.S. and often play a key role in administrative decisions on job tenure, promotion, and merit pay. Even strong supporters of student evaluations admit that student ratings may suffer from some halo effect, have only a modest association with common criteria of effective teaching, and are probably affected by some potential sources of biases.

Instructional effectiveness for a particular class is assessed by comparing an instructor's actual evaluation score with the one that is predicted for the class rather than with the average score for all other instructors teaching the same class. The prediction is based on a random-effects regression model of the evaluation score on potential sources of bias such as student, class, and teacher characteristics that are not under the control of



the instructor. Instructional effectiveness was measured in this manner for a student evaluation of teaching score and an objective, knowledge-based test score for 49 classes/instructors of principles of economics taught at comprehensive universities. The data were drawn from the Test for Understanding College Economics III database.

The results confirmed that instructional effectiveness was influenced by factors not under the control of the instructor. Additionally, there appeared to be a weak correlation between instructor rankings based on student knowledge versus rankings based on student opinion. Consequently, an overall measure of instructional effectiveness was constructed as a weighted average of the ratio between actual and predicted scores for both evaluation measures. The extent to which student opinion on teaching effectiveness entered the equation rather than actual knowledge gained was easily varied by changing the weight given to student evaluations. The methodology adopted in this paper can be adapted to any university, college, or department to make teaching assessment more meaningful.

**10:00 a.m.-10:50 a.m. SCIENCE EDUCATION**  
**Session W#010 (Symposium)..... Salon D**

**ORGANIZER:** J. Reid Jones, Delta State University

**A CONVERGENCE OF RESOURCES: MATHEMATICS AND SCIENCE  
INSTRUCTION IN THE RURAL DELTA**

J. Reid Jones, Delta State University

**Overview**

This symposium described distinctive difficulties facing mathematics and science instruction in the rural Mississippi Delta. With a tradition of low educational achievement, the Delta has also fallen behind most of the country in terms of access to rapidly expanding technologies. Progress reports were presented for six sponsored programs that had focused on mathematics and science teaching efforts in this region. Audience discussion emphasized ways that these programs can interface to address improvement in elementary schools through graduate programs.

**Approaching Elementary Students: Music, Mathematics, and Science**  
Orlando Moss and Deborah Ellis, Mississippi Valley State University

An informal curriculum was described that takes advantage of the fundamental relationships that music shares with mathematics and science. Examples demonstrated the motivational aspects of this approach at the elementary level.

**The Rural Systemic Initiative in the Mississippi Delta**  
Charles Alexander, The University of Mississippi

Efforts to stimulate systemic reform in mathematics and science teaching were described that produce long-term changes in K-12 districts. Leadership workshops, technical assistance, team approaches, sharing resources, and building parental and administrative support were instrumental activities.

**Undergraduate Mathematics and Science Education in the Delta**  
Richard Sullivan, Jackson State University, and J. Reid Jones  
and Nita Thornell, Delta State University



The Louis Stokes Mississippi Alliance for Minority Participation (LSMAMP) has placed major emphasis on recruiting mathematics and science students from the Mississippi Delta. Pre-freshman summer bridge programs work with academic support programs to provide tutoring, mentoring, and scholarships for promising but underprepared students. The MENTOR project of LSMAMP has brought many science and mathematics students into teacher preparation programs and has provided services for the K-12 community in the Delta.

**Mathematics and Science Staff Development and Inservice Programs for the Delta**

James Sabatier and David Carter, The University of Mississippi,  
and J. Reid Jones, Delta State University

Major grants from the Eisenhower Program have supported staff development in the Delta. Physics and applied mathematics demonstrations showed the audience how high- technology, low- cost laboratory experiences have been brought to 19 Delta school districts. A state-supported teacher effectiveness laboratory and a consortium of 32 districts promoted educational technology for the region.

**Making the Graduate Program Responsive to Teacher Education Needs in the Delta**

John G. Thornell and Henry Outlaw, Delta State University

Enriched graduate school opportunities for K-12 teachers in the Delta were described that provide graduate tuition scholarships and intensive summer courses at state parks. Using the expertise and resources from programs in this symposium, unique master's degree programs have been devised to meet the needs of Delta teachers.

**Discussion**

One reason that these sponsored programs have worked effectively together is that most of the project directors are close acquaintances, sharing a commitment to the educational advancement of a specific region. Audience and participant discussion produced new ideas and approaches that will make these diverse programs work even more effectively together.

**10:00 a.m.-10:50 a.m. SOCIAL SCIENCE AND RESEARCH METHODS**  
**Session W#011 (Training Session) .....Salon E**

**TRAINER:**Ira A. Bogotch, University of New Orleans

**DISCOVERING AND USING YOUR CONCEPTUAL FRAMEWORK**

This session was designed for graduate students attending MSERA with or without their dissertation advisors [both are welcomed here!]. First discussed were various meanings of the term "conceptual framework" and how it relates to doing educational research. Then, participants actively constructed a broad outline of their own research proposal seeking to identify embedded assumptions in their research topics/questions, reasons for using specific definitions and categories, the role of personal needs/interests, favorite authors, and seminal books and articles. Graduate students were asked if they should pursue new directions or build upon the works of others, and look for other alternative paths (inside of both traditional research paradigms and non-traditional approaches). The session concluded with practical questions regarding the relationship of conceptual frameworks to different methodologies, the dominant preferences of different fields of studies, as well as the preferences of major professors and dissertation committees, and which conceptual frameworks, if any, to avoid.



10:00 a.m.-10:50 a.m. **AT-RISK STUDENTS AND GIFTED EDUCATION**  
Session W#012 (Discussion Session).....Salon F

**PRESIDER:**Barbara M. Ray, The University of Tennessee at Chattanooga

**SUSTAINED EFFORT, LITTLE RETURN: THE WOEFUL ASSESSMENTS  
RESULTS OF AN AFTER-SCHOOL TUTORING PROGRAM**

Dennis C. Zuelke and J. Gordon Nelson,  
Jacksonville State University

The problem is the process and outcomes involved in an after-school tutoring program after four successive years of assessments. A nonprofit community based agency has operated an after school tutoring program for at-risk children, grades 3-12, in cooperation with a city school system. Two professors from the College of Education at a local university agreed to assess the reading and math outcomes for the tutored students during the last four years.

Every year, 1996-99, data were collected at each of the up to eight schools where tutoring took place using a common template of variables, variable definitions, and numerical matrix. Up to 290 tutees per year were subjected to the assessments. Twelve independent variables were used with two dependent variables, reading and math end-of-year grade point averages. Among the independent variables were hours tutored, type of tutoring program, kinds of tutors used, and tutee absenteeism. Each school's staff collected the data and entered them on a computer spreadsheet (Microsoft Excel) and prepared a computer diskette that was then given to the professors. The professors utilized SPSS software to analyze the data from the diskettes with descriptive statistics and single order correlations.

Contrary to the tutoring literature, the results indicated that tutoring did not improve reading and math grade point averages for the tutees. In fact, grade point average losses occurred each year for reading and three of the four years for math.

The professors have concluded that after school tutoring as practiced by the community agency did not work and, in effect, hurt the children who were exposed to it. The professors relied on the tutoring research literature to suggest improvements. The community agency made adjustments, the most dramatic in 1999, in which, finally, the math outcome was positive.

**GIFTED EDUCATION: DON'T OVERLOOK THE DISADVANTAGED**

Deborah Grubb Abell and Lesia Lennex, Morehead State University

It is often difficult to distinguish between truly gifted children and children whose background has been so enriched that they score extremely well on norm-referenced tests. On the other hand, students who come from economically and educationally disadvantaged families have often never had a book read to them, have not had developmentally appropriate and enriching materials to play with, and many have never been out of the county of residence. Every year students begin school who have never seen an elevator, never eaten in a restaurant (even McDonald's), and never been to a library or zoo. These students come to school ready and eager to learn but behind their peers in life experiences. It is often very difficult to identify the gifted children from this background.

It is well documented that affluent white students are more likely to be enrolled in a gifted program than minority or disadvantaged children. There is a need to establish a method of identifying economically disadvantaged gifted students that does not penalize them because of poor performance on standardized norm-referenced tests. Performance-based assessment techniques may be preferable to standardized testing for identification of economically disadvantaged students.

The present study provided a chi-square and descriptive statistical analysis of the incidence of students who participated in the federal free/reduced lunch program who were identified for a gifted education program at three Kentucky middle schools. There were 2000 students enrolled in the three schools, and the free/reduced lunch incidence varied from 60% to 80%. A descriptive analysis was also made of identification



procedures at the three schools with particular attention to provisions for the identification of economically disadvantaged students.

**TAPESTRIES: A PHENOMENOLOGICAL STUDY ON THE EXPERIENCE OF TEACHING IN THE INCLUSIVE, ONE-TEACHER SCHOOL**

Krystal Bishop, Southern Adventist University

This study explored the tapestry of experiences shared by teachers in inclusive, one-teacher schools. The purpose of the study was to enhance the understanding of teachers as users of personal practical knowledge.

A qualitative methodology was used. Four experienced teachers, currently teaching in inclusive, one-teacher schools, were asked to share their thoughts, feelings, and perceptions regarding the experiences they encountered on a regular basis. These experiences were shared through a series of phenomenological interviews, participant journal entries, and participant observations. The data were reported as impressionistic sketches, narratives of individual participants, and conversations constructed from responses gathered during data collection.

Data were organized according to (1) beliefs about teaching and learning, (2) what teachers personal practical knowledge looks like on a day-to-day basis, (3) professional identity and efficacy, (4) contextual factors enabling and/or constraining practice as professionals, (5) isolation and accommodating diversity, (6) the role of professional development, and (7) themes that emerged from the data.

General emerging themes included: (1) teachers must assume numerous academic and administrative responsibilities not usually assumed by peers in traditional settings, (2) the lack of opportunities to collaborate and socialize with peers creates a feeling of personal and professional isolation, (3) the need for support is crucial, and (4) time is a critical factor.

These general, emerging themes formed the basis for a grounded theory that emerged from a constant comparative analysis of the data. The grounded theory was reported as assumptions, followed by recommendations related to each assumption. Assumptions and recommendations were made to (1) teacher education programs, (2) administrative bodies, (3) teachers, and (4) special education consultants. An implication was that the grounded theory be used in the development of a systems approach designed to more effectively meet the needs of those teaching in inclusive, one-teacher inclusive schools.

**11:00 a.m.-11:50 a.m.      ACHIEVEMENT  
Session W#013              (Discussion Session)..... Salon A**

**PRESIDER:**Mary H. O'Phelan, Western Kentucky University

**METACOGNITION AND ACADEMIC ACHIEVEMENT: PROMISE AND PROBLEMS**

Lary C. Rampp, J. Stephen Guffey, and Steven G. Lesh, Arkansas State University

The literature is replete with discussions of school reform. Reform efforts are varied, but most focus on changing the institution without a concurrent effort to change the mind set of the organizational members. One major issue regarding reform efforts is that a large number of entering students drop out by the end of the first year. Retention of these students has become a significant concern in higher education. Arkansas State University, in particular, is very concerned about the why's of the 40% dropout rate of entering freshmen.

The selection of literature to be included in this review was carried out in a three-phase process. First, general descriptor terms were searched in the ERIC database. From this initial search a wide range of sources was identified. These sources were examined, and relevant pieces were retained. The second stage included the refining of the search descriptors based on the retained sources from the ERIC search. These refined descriptors were introduced to a wider range of online databases (Dissertations Abstracts, WorldCat, First Search, etc.). The final stage of selection was performed after reviewing the results of the second online search.

The researchers concluded that: (1) It is important that the reader grasp the unfolding of the



literature based research into a workable research framework; (2) A number of workable solutions are available; and (3) The best include teacher and student alike. The best focus on developing a cognitive tolerance for ambiguity, respect for evidence, willingness to search for reasons and alternatives, willingness to withhold or reverse judgments based on facts, open-mindedness, and sensitivity to others.

Implementation of the studies discussed in this presentation could form a foundation to better equip the entering college student for the academic rigors of university study. Public schools do not teach metacognition. That responsibility is left to the colleges and universities.

**THE RELATIONSHIP BETWEEN MULTIPLE SCHOOL TRANSFERS DURING ELEMENTARY YEARS AND STUDENT ACHIEVEMENT**

Joanna E. Nash and Patrick Kariuki, Milligan College

The purpose of this study was to determine the relationship between multiple school transfers and academic achievement and to examine any difference in the academic achievement of mobile and non-mobile students. The sample for this study consisted of 105 sixth- grade students from a school system in northeast Tennessee. Data were collected through examination of school records to determine student mobility and achievement test scores. Data were analyzed using a Pearson's product moment correlation and one-way ANOVA. Results of the Pearson's Product Moment Correlation indicated a relationship between multiple school transfers and academic achievement. The analysis of variance indicated a significant difference in the test scores of students who moved zero or one time and two, three, or more than three times. No significant difference was found between students who moved two and three times or three or more moves or between three moves and more than three moves. The findings of the study indicated that students would benefit from programs to decrease school mobility.

**11:00 a.m.-11:50 a.m.      GIFTED EDUCATION**  
**Session W#014              (Symposium).....Salon B**

**ORGANIZER:**                      Linda W. Morse, Mississippi State University

**DOES LISTENING TO MOZART OR USING ELABORATED EXAMPLES ENHANCE THE DIVERGENT THINKING PERFORMANCE OF UNDERGRADUATES?**

**Overview**

The Mozart Effect has gained attention during recent years as an apparently simple way of enhancing performance on certain kinds of cognitive tasks. Over a longer period of time, concern from many audiences has been voiced regarding how one might enhance the development of higher order thinking skills. This symposium was organized to present findings that, for the domain of divergent thinking, address these issues and extend our understanding of aspects of and influences on creative behavior. This symposium included three topics.

All presentations conveyed aspects of a study conducted on 91 volunteer students enrolled in undergraduate courses in Educational Psychology. The mean age was 20.6 yr (*SD* = 3.6). Most (82%) were female and classified as freshman or sophomore level (71%). Nineteen were African American (21%), 75% were Caucasian, and four represented other ethnic backgrounds.

**Use of Elaborated Examples on Creative Thought and Divergent Thinking**

Linda W. Morse and David T. Morse, Mississippi State University,  
and Gregg A. Johns, Mississippi State Hospital

The influence of elaborated examples on divergent thinking scores-fluency, flexibility, and



originality-was compared across four conditions. The conditions comprised: (1) control, (2) elaborated examples to encourage fluency of response, (3) elaborated examples for flexibility, and (4) elaborated examples for originality. It was proposed that elaborated examples to encourage fluency would yield higher fluency scores, and so on. Divergent thinking scores from two stimuli were used as the dependent variables. The results, though in the direction of the proposed outcomes, yielded small effect sizes, and were not statistically significant. It appeared that the elaborated examples condition was insufficient for eliciting noteworthy differences in divergent thinking scores.

**Does the "Mozart Effect" Apply to Divergent Thinking Performance?**

David T. Morse and Linda W. Morse, Mississippi State University,  
and Gregg A. Johns, Mississippi State Hospital

Participants were randomly assigned to listen to either a 10-minute excerpt of Mozart (Sonata in D major, K488) or a progressive relaxation tape before completing two divergent thinking tasks. Whereas the total divergent thinking scores were observed to be higher for the group listening to Mozart ( $M = 29.3, SD = 12.7$ ) than for those listening to the relaxation tape ( $M = 26.6, SD = 11.0$ ), the difference was not statistically significant, and represented a small effect size (Cohen's  $f = .12$ ). Other authors write of enhancing creative thinking by first "quieting the mind." It may be that listening to a classical music selection is as effective as listening to a relaxation tape for attaining this end.

**Originality of Ideas as a Function of Serial Position: When Do Novel Thoughts Come?**

Gregg A. Johns, Mississippi State Hospital

Are novel thoughts more likely to come early or later in a set of ideas? This study evaluated the serial position of responses to divergent thinking tasks that were awarded points for statistical infrequency. Originality scores were divided into "early trial responses" (originality scores occurring during the first half of a stimulus trial) vs. "later trial responses" (originality scores occurring during the latter half of a stimulus trial). Total early vs. late originality scores, across two divergent thinking tasks, were compared statistically. Results indicated that novel thoughts occurred statistically significantly more frequently during the latter portion of tasks ( $M = 2.09, SD = 1.67$ ) than during the early portion of tasks ( $M = 1.62, SD = 1.41$ ).

**Audience Participation**

Sample divergent thinking tasks were used to acquaint those attending with the types of creative behavior and scoring rubrics used. In addition, discussion of the findings and implications of the studies were encouraged.

**11:00 a.m.-11:50 a.m.      INTERNATIONAL EDUCATION**  
**Session W#015              (Discussion Session)..... Salon C**

**PRESIDER:**John R. Petry, The University of Memphis

**TEACHING, LEARNING, AND WORKING WITH INTERNATIONAL STUDENTS: A CASE STUDY**

D. Randall Parker, Louisiana Tech University

American institutions of higher education have historically been attractive to international students, especially those seeking advanced degrees. These students may be integrated into regular classes or, in



some cases, matriculate through a program as a cohort. As international enrollments rise, it is increasingly important for faculty and administrators to better understand the needs and experiences of these students.

The purpose of this study was to conduct an indepth case study of graduate students from Taiwan who were pursuing a master's degree in education at an American university in order to better understand the experience from their perspective and to offer recommendations for improved practice. This was a constant-comparative study of over 100 students in six cohorts over three years. Data were collected through observing classes, informal/social events, and study sessions; open-ended interviewing of students, faculty and administrators; and reviewing documents. Data were triangulated to determine convergent and contradictory pattern,; content analysis was used to determine emerging themes, and a literature review was conducted.

The literature revealed that international students may have difficulties with (1) written and oral communication, (2) listening skills and academic vocabulary, (3) access to advising and counseling services, and (4) cultural misunderstandings regarding practice in the academy. The major themes that emerged from this study were (1) strong personal and professional relationships between students and faculty, (2) student commitment to excellence and task accomplishment, (3) adjustments in teaching style, pace, and timeframe of assignments, (4) strong advising, counseling, and community integration, (5) increased use of tutors, interpreters, and translators, and (6) increased cross-cultural awareness.

The findings indicated that the challenges of working with international students provided faculty opportunities for personal development and greater cultural understanding. Practice should be modified to better meet student needs, and in so doing, faculty may learn as much from international students as the students learn from their American university experience.

**THE EVOLUTION OF A CROSS-CULTURAL EXPERIENCE FOR STUDENT TEACHERS**

Mary Lee Hall and Amy P. Dietrich, The University of Memphis

For five semesters, students have chosen voluntarily to complete the second part of their student teaching in Birmingham, England and Konigs Wusterhausen, Germany. The use of journal and focus group data from 28 students and six faculty involved yielded a wealth of information on the success of the program. The aim of the program was to provide experiences for students in cultural "code switching." The research questions posed were: How well did students adapt to a different culture, and How did the experience affect their self-efficacy as teachers? Journals and focus group data were analyzed, and responses were coded to correspond to the two research questions. Coded responses were then categorized to determine any patterns.

Researchers found that the students were not experiencing a student teaching experience as envisioned in the format of the program in the states. They also found that administrators and teachers in the schools in England and Germany had very different ideas and opinions of what student teacher involvement in their schools should be.

Analyzed data depicted the extent to which students viewed the experience as positive or negative and how that related to their expectations of the international placement or the extent to which they were capable of being open-minded about unfamiliar school environments. Students all had different ideas of how the experience would relate to their teaching career. Students viewed their relationship with students from different religious and language backgrounds as a way to help them to relate to those students with backgrounds different from their own in their future classrooms.

Researchers shared for other institutions' enlightenment the process of change and growth over the past five semesters as their university reaches for the idea of "one world, one people."

**11:00 a.m.-11:50 a.m. TESTS**  
**Session W#016 (Discussion Session)..... Salon D**

**PRESIDER:**Jianliang Wang, Western Kentucky University

**THE RELATIONSHIPS OF THE EMOTIONAL INTELLIGENCE INVENTORY**



Martha Tapia, American School Foundation

The purposes of this study were to examine the relationship between emotional intelligence as measured by the Emotional Intelligence Inventory (EQI) and intelligence as measured by the Otis-Lennon School Ability Test (OLSAT). Other comparisons included measures of verbal and mathematics scores on the Preliminary Scholastic Assessment Test (PSAT), grade point average (GPA), and the demographic variables of ethnicity, gender, and levels of education of parents. A structural equation model was built with the variables that had a significant relationship with emotional intelligence. The sample included 319 high school students from the American School Foundation in Mexico City.

The resulting data showed a non-significant correlation of OLSAT scores and EQI scores, indicating a lack of relationship between the construct of emotional intelligence and general intelligence, and there was also a lack of relationship with academic achievement as measured by the PSAT. A significant correlation was found with grade point average. There were no significant differences when EQI scores were grouped by ethnic background, level of education of mother, and level of education of father. Females scored significantly higher on the EQI than males. The analysis of the structural equation model built indicated a Goodness of Fit Index of 0.993, a Root Mean Square Error of Approximation of 0.0489, and a chi-square of 5.123 with three degrees of freedom and  $p = 0.163$ . These three statistics were sufficient to verify the model.

#### **A VALIDITY STUDY COMPARING THE ACT AND THE HOBET ENTRANCE EXAMS ON HEALTH CARE STUDENTS**

Barry G. Schultz and Ernest A. Rakow,  
The University of Memphis

The study examined the relationship between the ACT and the HOBET (Health Occupations Basic Entrance Test) entrance exams. The purpose of the study was to: (1) check the validity of the HOBET as a predictor of student success and (2) compare the two exams as predictors of GPA for students in the health-care field. Nearly 60% of college freshman for the fall 1998 semester took the ACT (Reisberg, 1998). Newly proposed guidelines on admissions criteria by the Education Department's Office for Civil Rights took a firm stance against admissions criteria that relied on entrance exams as the primary tool for admissions decisions (Healy, 1999). Therefore, colleges needed to take a close look at the entrance criteria that they used to make these decisions.

The sample consisted of 320 students from a small, private, health-care oriented college located in the Mid-South. The degrees pursued by the students included bachelor degrees in Nursing, Radiology, and Respiratory Care. The data were compiled from the fall 1995 semester to the fall 1998 semester. The variables examined included ACT scores, HOBET scores, scores of sub-parts of the exams, total credit hours, and GPA. All students were given the HOBET only after making a 20 on the ACT.

The results were that the two exams were correlated on the sample. Both exams were also correlated to GPA. The HOBET exam was found to be a better predictor of GPA than the ACT. Although the two exams were correlated, the correlation coefficient was smaller than ones found in previous studies. This was probably caused by the homogeneity of the sample

#### **THE MATHEMATICS ANXIETY QUESTIONNAIRE: A SIMULTANEOUS CONFIRMATORY FACTOR ANALYSIS ACROSS GENDER**

Richard Kazelskis and Carolyn Reeves-Kazelskis, University of Southern Mississippi

Following the ideas of Liebert and Morris (1967) in their work in the area of test anxiety, Wigfield and Meece (1988) developed the Mathematics Anxiety Questionnaire (MAQ). The MAQ was designed to measure both cognitive and affective aspects of mathematics anxiety. The MAQ was developed using samples of school-aged children in fifth through twelfth grades. The initial pool of items gathered by Wigfield and Meece was factor analyzed using exploratory techniques and two factors identified as Worry and Negative Affect Reaction were identified. The two factors were later further substantiated using confirmatory factor analysis.



Because the MAQ was developed using school-aged children, it is unclear whether or not the Wigfield and Meece factors will hold for a college population. Additionally, the MAQ was derived using samples in which male and female responses were combined, so the question of possible different factor structures for male and female respondents has yet to be resolved.

The present study used responses of college-age samples of 135 males and 173 females, in a two-group simultaneous confirmatory factor analysis to see if the two-factor model identified by Wigfield and Meece would hold for college-aged males and females.

The two-group simultaneous confirmatory factor analysis resulted in a ratio of the chi-square goodness of fit to degrees of freedom, which was less than 3.0, and a root means square error of approximation (RMSEA) of .08. However, the goodness of fit index (GFI) and the normed fit index (NFI) were each in the .80's, short of the value of .90 generally indicative of good fit. Overall, the two-factor fit was not exceptional, but it was deemed reasonable.

**11:00 a.m.-11:50 a.m.      PROFESSIONAL DEVELOPMENT**  
**Session W#017              (Discussion Session).....Salon E**

**PRESIDER:**Malenna Sumrall, The University of Alabama at Birmingham

**FACTORS DETERRING PARTICIPATION IN PROFESSIONAL ACTIVITIES**

Jacquelyn P. Robinson-Horne and Katie Welch Jackson, Auburn University

This descriptive study, the first of two parts, investigated factors preventing county extension agents from participating in professional development activities, such as inservice training, continuing education, and formal coursework, designed to help them grow as professionals.

The Deterrent to Participation Scale-General (DPS-G) and an 11-item demographic questionnaire were mailed to 520 systematically selected county extension agents from 13 states. The DPS-G consisted of 34 Likert-like items, which were divided into eight factors. Response choices were designed so that a higher degree of agreement indicated a deterrent to participation. Descriptive statistics were used to develop a respondent demographic profile and to determine which factors, and more specifically which items within each factor, received the highest rating as preventing agents from participating in professional development activities. Findings from this study were compared to those from a previous study using the DPS-G. The reliability coefficient, coefficient alpha, was .92.

Of the 321 responding, 258 (80%) were white, 174 (54%) were female, 191 (60.4%) were over 41 years of age, and 237 (74%) were married. An item analysis revealed that the five items with the highest means were inconvenient location, inconvenient time, away from family, time required for completion, and lack of interest. Of the five items with the highest means, two were from the factor Time Constraints and two were from the factor Lack of Convenience. In this study, the mean ranking of items was similar to those in an earlier study. The two items with the highest means were in reverse to the earlier study, and two of the other three items among the five with the highest means.

The findings of this study indicated that relationships existed between selected independent demographic variables and the factor structure. The findings also have implications for extension administration in designing and offering professional development opportunities.

**DEVELOPING AND SUSTAINING TEACHER COMMUNITIES: CARING  
AS CENTRAL IN TEACHERS' NEGOTIATION OF READING  
INSTRUCTION AND CURRICULUM IMPLEMENTATION**

Kristen Weeks Neal, Tennessee State University

Implicit in the argument for school reform is that supporting teachers' ongoing learning about practice holds possibilities for improving student learning. In schools where teachers are attempting to move



toward more innovative student-centered pedagogy, teachers work with their colleagues in multiple ways as they learn how to learn together and facilitate each other's inquiry into practice. However, reformers often assume that mutual support, experimentation, and risk-taking with colleagues emerges instantaneously when teachers commit to a common goal. In reality, communities that engender these behaviors pay close attention to the relational aspects of learning.

This project was based on a larger ethnographic study that investigated the development and sustenance of a first-grade teacher community in a public school during the 1997-98 school year. Eight first-grade teachers and the principal were participants in this study. The teachers worked together as a grade-level team within the larger school community. Data consisted of extensive audio-taped observations of team meetings, semi-structured interviews, group reflections, informal conversations with the teachers and artifacts that included meeting agendas and curriculum the team developed. Qualitative data analysis developed from three major constructs of the teachers' dialogue: invitations to the dialogue, shared values, and problem solving.

Through two lines of inquiry by the team- - one that explored how the teachers addressed the diversity of students' reading levels, and one that explored how they worked with a new systemwide mandated curriculum- - the dialogue revealed how caring relationships were constructed. Implications of this study suggested that caring matters for the development and sustenance of communities that allowed for members to be tentative, take risks, and experiment with innovation. Furthermore, this study suggested that changing hierarchical patterns of interactions of school members and developing school-based and organizational support to foster caring relationships was critical for school communities.

**A PERSONALITY DYNAMICS MODEL FOR THE SELF-EVALUATION COMPONENT OF PERSONAL AND PROFESSIONAL DEVELOPMENT**

Edith A. Miller and Donna Pascoe, Auburn University

This evaluation model was designed to serve as a self-evaluation component to be used in conceptualizing and implementing personal and professional development plans. The theoretical bases for self-evaluation are found in a variety of personality theories: psychoanalytic, inferiority/superiority, neurotic personalities, interpersonal perspectives, humanistic psychological perspectives, social-cognitive frameworks, needs and consequences, and other psychotherapeutic perspectives. Each of these perspectives (as well as others that might be identified as appropriate for the population/class membership) is studied with a view to understanding the underlying assumptions, the interface with individual personal and professional issues, and the potential of its concepts for planning and pursuing growth.

The evaluation model itself, beyond its theoretical bases, includes the following techniques to assist the individual in the self-evaluation process leading to plan development: journaling, shadowing, and spiritual guidance. (These techniques can be supplemented by others more specific to a particular personality perspective.) The second step in the self-evaluation process involves the use of these techniques and others in the development activities and supplementation of the activities with mentoring and coaching as the individual implements his plan. A final step involves the use of the initial self-evaluation procedures conducted to design the development experiences in a continuous evaluation of the growth activity.

The model in its developmental form has four dimensions: (1) the overarching theoretical frame of reference, (2) the methods for working toward insight from this frame of reference, (3) the ways of interpreting that insight with a view to planning development, and (4) an approach to continuous evaluation of the development plan. Procedures for drawing from more than one personality theory are included in the evaluation model.

**11:00 a.m.-11:50 a.m.      BLOCK SCHEDULING**  
**Session W#018              (Discussion Session)..... Salon F**

**PRESIDER:**Julie A. Holmes, Louisiana Technological University

**A LONGITUDINAL STUDY OF TEACHER PERCEPTIONS AFTER ONE YEAR OF BLOCK SCHEDULING IMPLEMENTATION VERSUS TEACHER PERCEPTIONS IN THE**

Wednesday, November 17, 1999



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**FOURTH YEAR OF IMPLEMENTATION ON THE EFFECTIVENESS OF  
BLOCK VERSUS TRADITIONAL SCHEDULING**

Laura C. Stokes and Joe W. Wilson,  
University of North Alabama

The purpose of this study was to compare teachers' perceptions of the effectiveness of block scheduling after one year of implementation with their perceptions of effectiveness during the fourth year of implementation. Three hypotheses were used for data analysis. The study sought to determine the relationship between teachers' initial perceptions and their perceptions of effectiveness after extended use. The relationship between subject area taught and perceptions of effectiveness after extended use was determined. The relationship between years of teaching experience and their perceptions of effectiveness was examined. Teachers were also asked to identify the factors they perceived to be important in implementing block scheduling, the advantages and disadvantages of block scheduling, and the factors important in maintaining block scheduling as an effective curricular structure over a period of time.

The subjects were members of the faculties from the four schools who participated in the baseline data collection efforts during the 1996-97 school year. The 50-item Likert scale used in the initial data collection process was administered by one of the researchers to assure consistency of administration in all four schools. The instrument was administered during spring of 1999.

Data analysis revealed that teachers preferred block scheduling over traditional scheduling even after extended use. The predictor variables, "subject area taught" and "years of teaching experience," did not significantly correlate with the criterion variable "perceptions of effectiveness." The findings concerning the factors critical in implementing block scheduling, as well as the factors important in maintaining block scheduling as an effective scheduling pattern, have significant implications for school districts considering the implementation of block scheduling. Further, the findings of the study have implications for teacher educators preparing preservice teachers for teaching in block scheduling environments.

**A STUDY OF STUDENTS' PERCEPTIONS OF THE EFFECTIVENESS  
OF BLOCK SCHEDULING VERSUS TRADITIONAL SCHEDULING**

Joe W. Wilson and Laura C. Stokes, University of North Alabama

The purpose of this study was to determine the effectiveness of 4 X 4 block scheduling as perceived by students whose schools had been on the block for one year as compared to the perceptions of students whose schools had been on block for four years. The study sought to determine the relationship between isolated predictor variables and the criterion variable students' perceptions of effectiveness. Predictor variables included the number of years schools had been on block scheduling, type diploma students were seeking, teachers' experience with the block, and the variety of teaching strategies used in block classes.

The subjects included randomly selected students from two schools that had been on block scheduling for four years and randomly selected students from two schools that had been on block scheduling for one year. The two schools that had been on block scheduling for four years included 24 students from one school and 42 from the other. The two schools with less experience on block scheduling included 26 students from one school and 20 students from the other. Using a Likert scale consisting of 30 items, the same researcher administered the instrument to the four groups of students to ensure consistency in administering the instrument. The subjects completed the instrument in a group setting during the last week of March and the first week of April, 1999.

Data analysis revealed that students perceived block scheduling to be an effective structural change in the schools. The relationships between effectiveness and the predictor variables outlined above were also determined. Additionally, students identified the advantages and disadvantages of block scheduling versus traditional scheduling. The findings and conclusions drawn from the study have important implications for public schools, and especially how teacher education programs prepare students to teach in block scheduled classes.



**BLOCK SCHEDULING: AN ASSESSMENT OF STUDENTS' AND TEACHERS' PERCEPTIONS**

Robert Calvery, Flippin (AR) School District, and Glenn Sheets  
and David Bell, Arkansas Tech University

This was a study of students' and teachers' perceptions of block scheduling, which was used during the 1998-99 school year at Southside Public School System in Batesville, Arkansas. The participants in this study were 200 high school students and 23 high school teachers. Data collected from the surveys were used to compare students' perceptions on various areas related to block scheduling practices. The survey consisted of 12 Likert-scaled questions and three open-ended questions focusing on attitudes and perceptions to block scheduling.

Students in all areas preferred block scheduling to the more traditional seven- period schedule. Students' perception when first introduced to block scheduling was low, with only 2% thinking classes would be interesting. After a year of taking classes in a block schedule format the interest in classes increased to 36%. Some cited advantages by teachers included: more time with individual students, and students have few classes and teachers teach fewer students. Some cited disadvantages included that the block scheduling format is less forgiving of students' absences and the concern about the students' time between prerequisite courses.

Based on the findings and conclusions drawn from this perceptual survey, the Southside High School is considering a number of recommendations. These recommendations included the following: continuation of block scheduling for the upcoming school year, an on-going staff development program related to block scheduling issues, and periodic monitoring and data collection to determine the success of the block scheduling.

**12:00 p.m.-12:50 p.m. SCIENCE EDUCATION**  
**Session W#019 (Discussion Session)..... Salon A**

**PRESIDER:**Lee Napier, Jackson State University

**EFFECTS OF SCIENCE MANIPULATIVES ON ACHIEVEMENT, ATTITUDES, AND JOURNAL WRITING OF ELEMENTARY SCIENCE STUDENTS REVISITED**

Lynda R. Frederick and Edward L. Shaw, Jr., University of South Alabama.

This study reexamined aspects of a previous study of elementary science students' achievement, attitudes, and journal writing in conjunction with an Alabama Hands-on Activity Science Program (HASP) kit. This reexamination consisted of replication and expansion of the original study.

As with the original study, the sample consisted of fourth-grade students. Each group was taught a unit on electricity and circuits. A 15-item test was administered as a pretest and a posttest. The test consisted of application and knowledge level questions. The researchers developed a 12-item attitude survey that was administered before and after instruction. In addition to participating in both the test and attitude survey, subjects were requested to reflect on their participation by writing in journals. However, in the expanded study one group was given the same writing prompts as used in the original study, and the second group was given a variety of lesson-specific writing prompts.

Data collected were analyzed using a *t*-test. Significant differences occurred between the pretests and posttests. Results indicated that elementary students' achievement increased with the use of the kit and appropriate instruction. Additionally, the results of the attitude survey supported using science manipulatives as a means of increasing favorable responses towards science, science careers, and journal writing. Qualitative content analysis of the students' journals revealed changes in the quality and quantity of the reflective writing over the duration of the instructional unit. The replication of the study indicated that use of manipulatives had a positive effect on achievement and attitudes of elementary science students. In addition, the implication of writing prompts given in the original study yielded journal writings of lesser quantity and quality than those of the group given the varied and more lesson specific prompts.

**A MODEL FOR THE SUCCESSFUL IMPLEMENTATION OF INSTRUCTIONAL**



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## TECHNOLOGY IN SCIENCE TEACHING

David R. Wetzel, George Mason University

This paper presented the ST4AIRS Model for overcoming barriers to science teachers as they implement and integrate technology in science. The model is based on current literature and research with inservice middle school and high school science teachers. Teachers' concerns when using technology in science were obtained through interviews and non-participant observations. The results of a literature review and findings of research revealed many barriers to teachers in the implementation and integration process of instructional technology. Several of these barriers include: time to learn how to use technology, adequate hands-on staff development opportunities, administrative support for training and planning, adequate funding, teacher involvement in staff development planning, and recognition for those teachers who are willing to give the extra effort to learn how to use instructional technology.

The ST4AIRS Model was developed to overcome the barriers revealed in the literature and research findings. The model's nine steps include: support for teachers, time for training, trainers that are qualified teachers who train other teachers, transition time for planning and integration, access to hardware and software, involvement in planning and integration by teachers, recognition for teachers, and staff development that meets the needs of the teachers. A holistic approach by education leaders in the implementation of this model will result in the successful implementation and integration of instructional technology by science teachers.

Implications, based on the literature and research findings, are that the components of the ST4AIRS Model provides a structure for the successful implementation and integration technology beyond the typical three to five year life span. The model has addressed teacher concerns, knowledge, and beliefs regarding implementation strategies. The ST4AIRS Model provides education leaders and teachers with a long-term systemic change framework to integrate instructional technology in science as emphasized in the National Science Education Standards and National Educational Technology Standards.

## IMPROVING SCIENCE EDUCATION AT AN ECONOMICALLY DISADVANTAGED RURAL ELEMENTARY SCHOOL

Jack G. Blendinger and Lauren Rabb Wells, Mississippi State University

This case study focuses on an intervention by university researchers, serving in the role of participant-observers, to improve science education at an economically disadvantaged, rural K-6 elementary school by enlisting the assistance of administrators, teachers, students, parents, Smithsonian Institution, National Academy of Sciences, and Carolina Biological Supply Company in the process. Approximately 600 students, mostly African American, attended the school at which the intervention occurred.

Interest in improving the science education program at the school resulted from conversations between the principal and the two researchers involved in the project. The principal was pleased that a number of instructional improvements were occurring at her school, but disappointed with the quality of instruction in science. Owing to the university's commitment of service to the public schools of the state, the researchers accepted the challenge to help improve the school's science education program by working with the principal to gather baseline data, involve the school's stakeholders (teachers, students and parents) in the process, and solicit help from national associations and private corporations.

The paper described in step-by-step detail the method employed for gathering and analyzing baseline data, how the results were used to determine a practical course of action, and strategies for securing financial assistance. Resources made possible through focused effort enabled the school to pilot an innovative hands-on science curriculum during the 1998-99 school year that emphasized inquiry and promoted learning through discovery.

To motivate school staffs to improve science education, anecdotal cases, such as the one presented in this session, are needed for the continued development of the "best practice" literature base addressing science instruction. The findings presented in this case study make a meaningful contribution to that literature base.



12:00 p.m.-12:50 p.m.  
Session W#020

STATISTICS  
(Symposium).....Salon B

ORGANIZER AND  
CHAIR:

Larry G. Daniel, University of North Texas

**MINIMIZING PROBLEMS IN THE USE AND INTERPRETATION OF STATISTICAL RESULTS: A SYMPOSIUM FEATURING GRADUATE STUDENTS**

**Overview**

In this symposium, three common problems associated with using and interpreting statistical results were discussed. Each problem was the focus of a separate paper presented by a graduate student in education. The papers included discussion of the several issues as well as presentation of data to illustrate various interpretation problems and solutions for them. Following the presentation of the papers, the audience was invited to ask questions and/or present their own views on the issues presented.

**Statistical Significance Testing and Effect Size: What's Important in Interpretation of Results?**

Ginny R. Lane, University of North Texas

For some years, researchers have recognized the importance of interpreting measures of statistical effect size. However, many researchers either omit or underemphasize effect size estimates. In this paper, several common effect size estimates were discussed. A small data set was utilized to demonstrate how reliance upon statistical significance without consulting effect size estimates can lead to erroneous conclusions. The author illustrated how interpretation of measures of effect size can provide the researcher with better information about the nature of results.

**The Importance of Variance in Statistical Analysis: Don't Throw Out the Baby with the Bathwater**

Martha Peet, University of North Texas

Because all parametric statistical methods are correlations, and because correlations are maximized when patterns of systematic variance across variables are present, it is important that researchers honor the variability present in their variables to the maximum extent possible. However, researchers frequently truncate continuous variables into nominal categories when utilizing certain statistical procedures. The author presented several examples to illustrate how these conversions distort the relationships among the variables of interest. Alternate analyses of the same data that preserve the nature of the original continuous variables were then presented.

**Contingency Table Statistics and Educational Reliability: Problems with the Chi-square Statistic**

Diann Rozell, University of North Texas

The Pearson chi-square tests can be useful in situations in which the researcher wishes to compare observed versus expected frequencies in categories or cells, of a contingency table. Although these tests can be useful, various problems associated with their use and interpretation are common. First, the author discussed reasons why the chi-square test is often the result of weak research questions. In addition, an educational research data set was used to illustrate that statistically significant chi-squares often do not inform the researcher about the contributions of the cells in the contingency tables, resulting in unclear conclusions or utilization of additional statistical tests, neither of which is a promising alternative.



12:00 p.m.-12:50 p.m.  
Session W#021

**PERFORMANCE ASSESSMENT**  
**(Discussion Session)**..... Salon C

**PRESIDER:**Mary Jane Bradley, Arkansas State University

**A PARTNERSHIP TO CREATE SUCCESSFUL SUBJECT AREA CURRICULUM  
AND BUILD EFFECTIVE PROFESSIONAL DEVELOPMENT**

Tricia Bridges and Reuben Dilworth, Mississippi State University,  
and Arlene Amos, Choctaw County (MS) School District

The purpose of this report was to discuss the efforts of the TIPS Teachers and Interns: Partners for Success (TIPS) consortium of school districts to develop curriculum that assists teachers with preparing students to move into analysis, synthesis, and evaluation on a daily basis and ultimately improve performance on state end-of-course assessments in Algebra I, American History, and Biology I. A proposal from the TIPS partnership involving Choctaw County Schools, Alcorn County Schools, New Albany Schools, Philadelphia Schools, Petal Schools, Mississippi School for Math and Science, and Program for Research and Evaluation of Public Schools (PREPS) and Mississippi Writing Thinking Institute (MWTI) of Mississippi State University was funded by the United States Office of Education through a Goals 2000 grant in the amount of \$120,000. This Goals 2000 effort involved developing curriculum materials and a five- day professional development session during which teacher-presenters modeled effective teaching strategies to use in each subject area. Twenty-four classroom teachers were involved in development and presentation of the performance unit curriculum pieces. Seventy school districts sent 474 teachers to participate with 30 preservice teachers in 10 series of five-day professional development sessions located throughout the state of Mississippi.

This report centered on the effectiveness of the professional development as perceived by attending teachers. The following research questions were answered in the intensive final evaluation of the project: How effective was the TIPS Subject Area Training? and Will teachers use these curriculum pieces and instructional strategies in their daily practice? This research provided results of teacher implementation. The consortium has planned for further analysis of student performance during school year 1999-2000 using scores of the subject area assessments compared before and after this instructional treatment.

**AN EVALUATION OF PERFORMANCE TASK INSTRUCTION  
IN THE ELEMENTARY SCHOOL CLASSROOM**

Lorrie A. Howell, Kim Patterson, Tricia Bridges,  
and Kay Brocato, Mississippi State University

This study was designed to answer the following questions concerning the effects of teaching with performance units: (1) How does teaching with performance units affect the results of students' standardized core battery assessment scores? (2) How does teaching with performance units affect the results of students' standardized performance assessment scores? (3) How does teaching with performance units affect the results students' experience of test anxiety and feeling of success during the testing situation? and (4) How does teaching with performance units affect teachers' perceptions of performance task instruction? This study followed a repeated measures design using fourth-grade students' ITBS scores as the dependent variable and the use of performance task instruction as the treatment effect or independent variable. An analysis of variance was completed using pre- and post-treatment ITBS scores to address questions (1) and (2) A post-treatment evaluation questionnaire was collected and used to gather qualitative data to questions (3) and (4).

Fourth-grade teachers participated in four days of professional development focusing on the use of daily performance task instruction to address lesson, unit, and course content. The staff development consisted of two initial eight-hour days of development activities during which teachers were (1) introduced to performance tasks, (2) worked through three performance teaching units, (3) evaluated completed examples of students'



performance units, and (4) created an original performance task teaching unit. Two eight-hour follow-up days of development activities included technical assistance with performance task teaching. During technical assistance sessions, performance task instructional specialists collected feedback concerning the use of performance task instruction then modeled ideal performance task teaching. All participating teachers were required by their school district to attend this staff development. Each teacher received the same training by the same instructional specialist on the same dates. Each participant was asked to use the performance based instructional techniques modeled during staff development from the beginning of the school year.

Class mean ITBS scores were compared before and after treatment. Content analysis of post-treatment evaluation questionnaires was completed. Results were discussed.

**12:00 p.m.-12:50 p.m. GENDER ISSUES**  
**Session W#022 (Discussion Session).....Salon E**

**PRESIDER:**Mildred E. Kersh, University of Southern Mississippi

**A UNIVERSITY-WIDE STUDY OF TEACHING STYLES AND GENDER**

Candace H. Lacey, Barry University, and  
Amany Saleh, Arkansas State University

This study explored the teaching styles of female and male professors. For the purpose of this research, teaching style was defined in terms of a teacher s inclusion, the teachers ability to focus teaching strategies on the characteristics of the class, and sensitivity, the teacher s ability to sense the shared characteristics of learners. The research sought to determine if there was a significant difference in inclusion and sensitivity in teaching style as it related to gender.

The Van Tilburg/Heimlich Teaching Beliefs Scale (1990) and a brief demographic profile were sent, via campus mail, to all full-time faculty members (N=307) in a mid-size southern university. A 35% response rate was received. The surveys were hand scored and the results were analyzed using SPSS. *T* tests were used to determine if there was a significant difference ( $p=.05$ ) in the variables of inclusion and sensitivity as they related to the gender of the respondents.

The findings indicated that there was a significant difference ( $p=.05$ ) in the inclusion variable while sensitivity remained relatively similar for female and male professors. Implications for the profession were then developed, and recommendations or practice were offered.

**MASTERING THE MAZE THROUGH MENTORING: CAREER  
ADVANCEMENT OF FEMALE SUPERINTENDENTS**

Mary Sue Polleys, Auburn University

This study investigated the career advancement of female superintendents. Although women predominate in the teaching profession, very few superintendents are female. The women who have made it to the top bureaucratic position in public education, the superintendency, have successfully maneuvered through a glass maze of walls as they traveled around unseen barriers that impeded their career progress. This study explored the successful strategies employed by female superintendents for detouring around those glass walls. The purpose of this study was to ask female superintendents to describe the people who assisted them professionally in significant ways, to discuss the obstacles they encountered in their rise to the superintendency, how they negotiated those obstacles, how personal contexts influenced their professional success, the role models who influenced them, and their perceptions of the influence of southern culture on their career aspirations and achievements.

Three superintendents in a southern state were the focus of the study. Public school superintendents with traditionally female names were contacted via e-mail or fax. Of 20 surveys distributed, three completed surveys were returned. These three female superintendents have served as preliminary case study participants.



One major finding was the importance of mentoring in the professional advancement of women. The following glass walls were identified: a shortage of mentors, the need for mentoring from powerful men, sexism, the conflictual nature of ambition, self-limiting behavior, family concerns, gender stereotyping, and highly developed personal characteristics that include risk-taking. Insight from the three subjects was considered in light of literature findings and the author's own career experience. The findings of this study suggested implications for institutions, gatekeepers to the superintendency, professional women in need of mentors, and those in position to mentor.

**AFRICAN AMERICAN FEMALE IDENTITY: INVISIBLE AND ENDANGERED**

Janeula M. Burt and Glennelle Halpin, Auburn University

The purpose of this study was to determine whether or not a difference existed between the identity development of African American females who attended an historically black institution (HBI) or predominately white institution (PWI). Knowing and understanding who we are and what we are capable of is essential in the development and maturity of all human beings. However, for young African American women developing within the "double burden" (St. Jean & Feagin, 1998) of race and gender can be extremely problematic. African American females must develop an identity that integrates both a healthy sense of blackness as well as a healthy sense of femaleness (Shorter-Gooden & Washington, 1996). Is it more difficult for African American females to achieve a healthy identity within the ascribed context of race and gender on an PWI campus?

Participants in this study were 31 African American undergraduate students at a public, predominately white, land-grant institution located in the southeast region and 76 undergraduate students at a historically black, private institution located in the middle Atlantic states. A survey designed to measure the universal constructs of African American identity was administered. In a t-test for independent samples by gender a significant statistical difference ( $F(1, 104) = 3.90, p < .05$ ) between males and females and between students who attended the PWI and those who attended the HBI (Burt, 1998). African American females who attended the HBI also scored significantly higher ( $F(1, 75) = 13.77, p < .01$ ) than their female counterparts at the PWI. Similarly, African American females scored significantly higher on the identity scale than males at both institutions. Also significant in this study was that nearly 66% of the women sampled were incoming freshman females at the HBI, while the sample of the PWI students was comprised of students who were rising sophomores and juniors.

**1:00 p.m.-1:50 p.m.      LEARNING STYLES**  
**Session W#023      (Training Session) ..... Salon A**

**TRAINER:**Linda T. Coats, Mississippi State University

**FROM RESEARCH TO PRACTICE: USING STUDENTS' LEARNING PREFERENCES TO ENHANCE TEACHING AND LEARNING**

This training session centered on the need for college professors to recognize and accept students' diverse learning preferences. Objectives were to demonstrate how college professors can utilize learning preference research results to enhance teaching and learning and to encourage systematic and reflective practice.

Participants were presented with a review of literature that validated the importance of learning preferences as related to students "learning" classroom material. Participants were then introduced to various instruments used to assess learning preferences. Emphasis was placed on the Productivity Environmental Preference Survey (PEPS) and its use in assessing students' learning preferences. Participants were divided into teaching pairs and given PEPS results from students enrolled in a junior level course at a southern university. Teaching pairs reviewed the results and, with the assistance of the trainer, developed instructional episodes utilizing instructional strategies and techniques that accommodated the learning preferences needs of students. Instructional episodes were presented to the group.



Topics discussed in this training session were: the difference between learning preferences and learning styles, instruments that assess learning preferences, ways to develop lessons to accommodate students' diverse learning preferences, and using scholarship to improve instructional practices. Other topics included reflective thinking and teaching, instructors' learning preferences, and teachers teaching the way they were taught.

**1:00 p.m.-1:50 p.m.      PROFESSIONAL DEVELOPMENT**  
**Session W#024      (Discussion Session).....Salon B**

**PRESIDER:**Lynn Howerton, Arkansas State University

**COLLABORATIVE PLANNING AND DECISION MAKING: PRELIMINARY CONCLUSIONS FROM AN ONGOING CASE STUDY OF ELEMENTARY SCHOOL TEAM TEACHING**

John F. Riley, University of Montevallo

The study examined the collaborative planning and decision making of a grade level team of elementary teachers. The purpose of the case study was to determine the level and nature of interaction among teachers who participated in grade level team planning meetings during the school year.

Eight elementary teachers in a suburban school district in the Mid-South participated in the initial phase of the study in the spring of the school year. Two teachers on this team were new to the district; one of those was a first-year teacher. The others ranged in experience from two to thirteen years. One teacher was African American, the others were Caucasian. All were female.

The researcher observed the teachers during their regular team planning meetings -- 90 minutes Monday afternoons after school, 45 minutes Wednesday mornings during their students' physical education period. The Monday afternoon meetings were primarily devoted to curriculum planning. The Wednesday morning meetings were devoted to team business. The team captain conducted both of these meetings.

The researcher compiled field notes on individual levels of participation and categorized the types of interactions by the teachers. The analysis of these data provided insight into team decision making as practiced in this situation, as well as the relative roles of veteran and novice teachers.

Toward the end of the school year, team members participated in several interviews of prospective new teachers for the team. They discussed these interviews during their meetings, and these discussions provided insight into the team's view of essential qualities for beginning teachers. In addition, these discussions generated comments regarding the perception of the team held by team members and others in the school.

**EVALUATION: PROFESSIONAL DEVELOPMENT DESIGNED ON NEEDS ASSESSMENT DATA**

Edith Miller, Margaret E. Ross, and Elizabeth Simpson,  
Auburn University

As part of a self-study accreditation process, a needs assessment instrument was administered at Sanford Middle School in the Lee County (AL) school system. The instrument was designed to assess perceptions regarding the curriculum, instructional practices, evaluation policies and activities, and community involvement. As a part of a collaborative effort (Professional Development Schools) between Auburn University and the local school, that instrument was discovered to be so complex and vague as to be useless in planning professional development activities.

The graduate professors and students from Auburn University who were working with the local school participants determined that an instrument that was more specific to the instructional methodology suggested by both the general and specific curricular and instructional objectives was needed. Utilizing the objectives (based on local school priorities as well as state and national standards), brainstorming sessions



involving university and local school participants resulted in many possible items winnowed to fewer items with evaluation.

A field test of the improved instrument was administered to the faculty and staff and other interested professionals, and the resulting data were useful and definitive in designing appropriate instructional and evaluation professional development. Two major streams of inservice were identified: (1) learner-center teaching methodology and (2) more effective use and scoring of authentic assessment. Also identified were interest in improving traditional evaluation skills and classroom management/discipline.

Further instrument development occurred utilizing the field test results, and a finished instrument was administered at the beginning of the 1999-2000 school year. The results of that administration were used to design professional development activities that could be delivered as a part of the PDS collaboration and the on-going school activity.

**AN EVALUATION OF A POST-GRADUATE K-12 PRINCIPALS' LEADERSHIP INSTITUTE**

Milly Cowles, The Principals' Academy

The major purposes were to plan an intensive professional development program for 60 principals that incorporated content that dealt specifically with actual leadership and managerial knowledge regarded as essential by 15 carefully chosen, nationally recognized "experts," and to evaluate the effectiveness of the year-long Institute with an objective measure.

In order to examine the two aspects of leadership, one's own perceptions of self and the manner in which others viewed the individual s skills and abilities, The ACUMEN was chosen inasmuch as there are two parts of it: (1) a self-profile and (2) a feedback profile. The ACUMEN was taken by each participant before attending the specially planned professional development program. Essentially, the results from 60 principals and 642 co-workers gave information in regard to principals views of their own leadership skills in 12 significant areas of management and leadership. Then, 10 to 12 co-workers, who were randomly selected from a pool of individuals who were knowledgeable in regard to the actual day-to-day leadership behaviors shown by the principals, took The ACUMEN.

After one year of participation in an intensive leadership development program, the inventory was again taken by the same people. The pre- and post-self and feedback profiles were compared to determine changes, if any, in self and feedback profiles. The results offered strong support for the type of program given.

**1:00 p.m.-1:50 p.m. POLICY**  
**Session W#025 (Discussion Session)..... Salon C**

**PRESIDER:**Ira A. Bogotch, University of New Orleans

**A COMPARISON AND CONTRAST OF THE DESEGREGATION EXPERIENCES OF THREE LOUISIANA SCHOOL DISTRICTS: LAFAYETTE PARISH, THE CITY OF MONROE, AND OUACHITA PARISH**

Stephen J. Caldas, University of Southwestern Louisiana

This study compared and contrasted the desegregation experiences of three medium-sized Louisiana school districts. The study used 30 years of public and nonpublic school enrollment and archival data for the districts of Lafayette Parish, the City of Monroe, and Ouachita Parish. These districts represented an urban/suburban district, an urban district, and a rural/suburban district, respectively. The study tracked changing trends in school district racial compositions. The authors linked active court-ordered desegregation in racially mixed Monroe City to the white flight that took place to the neighboring rural/suburban district of predominantly white Ouachita Parish. It was demonstrated that in racially mixed Lafayette Parish, by contrast, where the integrity of neighborhood school districts was maintained, white flight from the system was much less, and public support for the system remained much greater over the entire period. However, desegregation-inspired school district



re-zoning in 1998-99 threatened to erode some public support. It was proposed that school systems strike compromises that tolerate racially identifiable neighborhood schools, if this ensures that the more advantaged social classes do not abandon public schools.

### **WHAT ARE THE EXISTING DISTANCE POLICIES IN EVALUATION FOR GEORGIA STATEWIDE ACADEMIC AND MEDICAL SYSTEMS USERS?**

Barbara K. McKenzie, State University of West Georgia

In 1998, the State University of West Georgia (UWG) and the Georgia Merit System (GMS) were awarded a grant to explore the distance learning policies of various types of organizational settings in the state during the 1998-99 academic year. Prior to the awarding of this grant, no statewide studies had been conducted to examine existing policies at the GSAMS sites. In this study, two major areas of concern were explored: (1) the ways in which distance learning policies had been established, and (2) the types of policies that had been established. Five policy areas were examined: administration and management, technical issues, pedagogy, training, and evaluation.

During summer and fall of 1998, UWG and GMS worked cooperatively conducting focus group interviews, creating the survey instrument, and pilot testing the survey. In November, all GSAMS sites in Georgia (N= 291), with the exception of the telemedicine sites, received two surveys. The site coordinator was instructed to complete one survey and distribute the other survey to an experienced distance learning instructor at the site. The survey consisted of both closed (multiple-choice items) and open-ended questions. A total of 582 questionnaires were sent to the GSAMS sites. One hundred thirty-five completed surveys were returned. Descriptive statistics were calculated on the closed-ended questions using SPSS 8.0. A content analysis was conducted on the open-ended questions.

In the evaluation component of the questionnaire, participants answered questions regarding the individuals and programs evaluated. Questions were asked in order to determine how distance learning coordinators, instructors, and program effectiveness were evaluated. Tables and figures displaying the data generated by this study were developed to show response patterns across organizations surveyed. Conclusions were drawn, and future directions for GSAMS policy development were suggested.

### **SHOULD ACHIEVEMENT TESTS BE USED TO JUDGE SCHOOL QUALITY?**

Scott C. Bauer, University of New Orleans

The emergence of high-stakes accountability has intensified the debate over whether state-mandated assessment is a useful instrument for changing educational practice (Firestone, Mayrowetz, & Fairman, 1998; Ginsberg & Berry, 1998; Sheldon & Biddle, 1998). Nearly all states have set standards for what students should know and be able to do at various points in their schooling, and half the states apply sanctions to those whose students fail to meet the standards (Wolk, 1998, p. 48). While there is evidence that testing changes patterns of teaching, (Firestone et al., 1998), high-stakes testing also produces a high level of stress for teachers and principals and may encourage teachers to consider test scores as ends in themselves (Sheldon & Biddle, 1998).

At last year's annual meeting of MSERA, W. James Popham raised the question: Is it appropriate to use norm-referenced tests to evaluate instructional quality? He then invited researchers to participate in a study to address the question: Should student scores on standardized achievement tests be used to evaluate instructional quality in local schools? This paper was one among many local efforts to obtain data to address this important question.

The investigation used the research protocol designed by Popham and local study directors to determine if participants felt that test questions appropriately measure school quality, or if they suffered from what Popham (1999) termed confounded causality, i.e., the questions measure factors that are beyond the reasonable control of the school. Approximately 40 reviewers, half of whom were teachers and half were parents of elementary school children, participated in the study. They rated test items from the third-grade edition of a nationally published norm-referenced test. Results of the rating process were presented, along with data from debriefing



sessions dealing with the efficacy of the item rating process itself.

1:00 p.m.-1:50 p.m. LANGUAGE  
Session W#026 (Discussion Session)..... Salon D

PRESIDER:Randall Parker, Louisiana Technological University

**TWENTIETH-CENTURY HISTORICAL PRESERVATION OF ANTEBELLUM PLANTATION LIFE: A CONTEXTUAL MECHANISM FOR TWENTY-FIRST CENTURY ADVANCED LITERATE BEHAVIORS IN AFRICAN AMERICAN CHILDREN**

Elizabeth E. LaVergne-Pinkett, University of Southwestern Louisiana

The central position of this paper was that late twentieth-century preservation of ante-bellum southern United States plantation life is a mechanism for twenty-first century advanced literate behaviors, with a particular focus on the Great River Road plantations of southeastern Louisiana. Because part of the history of African American children is contained therein, the preservation provides a context to argue the imperative that African American children acquire Standard American English, the language of power. Essential to the argument is the notion that advanced literacy enables one to record both his own and his ancestors' history, thereby reducing the probability of misrepresentation, misinterpretation, and mistranslation of the message. Furthermore, in order to record from the slave's perspective, the African American child is required to transport himself mentally and emotionally to the time of slavery and be able to write the slave's story in the dominant language of his (the child's) time. Accordingly, the language of power positions him to preserve his history without depending on the detached writer's so called "objective view," which is frequently tempered by communicentric bias.

Toward this end, the position was organized around the following key points: (1) description of historical and contemporary River Road plantation society in Louisiana, (2) conceptualization of language literacy according to its knowledge construction and definition, (3) presentation of other historical contexts that depict the argument's imperative, (4) reasons to compel young African Americans to visit the plantations, (5) the effect of the language of power on preserving one's history, and (6) conceptual framework to illustrate the main argument and to promote future research on the acquisition and mastery of advanced literate behaviors by African American children. In the final part of the paper, teaching implications were presented based on the central argument.

**THE ROLE OF EXPECTATIONS IN FOREIGN LANGUAGE LEARNING**

Christine E. Daley, Muscogee County (GA) Schools; Anthony J. Onwuegbuzie, Valdosta State University; and Phillip Bailey, University of Central Arkansas

Research has shown that students' expectations of their performance in a foreign language course is an important predictor of their future achievement. Thus, the accuracy of students' expectations may be a key factor in determining foreign language performance. Two types of biases have been found to occur in foreign language learning. The first bias, self-enhancement, pertains to students who are unrealistically optimistic about their ability to learn a foreign language. The second bias, self-derogation, pertains to students who have little or no confidence in their performance in foreign language classes. The purpose of this study was to investigate the prevalence of these two biases and to compare students with these two biases, as well as those with accurate self-perceptions of their foreign language performance, with respect to anxiety and overall academic achievement. Participants were 213 college students from a variety of disciplinary backgrounds, enrolled in Spanish, French, or German classes. Participants were administered the Foreign Language Classroom Anxiety Scale. This scale contains 33 Likert-type items that assess students' levels of anxiety during language classes.

Findings revealed that self-enhancement bias (47.4%) was more than three times as prevalent as was self-derogation bias (13.6%). Students with self-derogation bias tended to have statistically significantly



higher levels of foreign language anxiety ( $M = 108.33$ ,  $SD = 21.81$ ) than did self-enhancers ( $M = 95.47$ ,  $SD = 22.98$ ) and accurate self-appraisers ( $M = 94.77$ ,  $SD = 22.51$ ). The effect sizes associated with these differences were large (i.e., 0.57 and .61, respectively). Additionally, self-enhancers ( $M = 2.83$ ,  $SD = 0.59$ ) had significantly lower levels of overall academic achievement (i.e., gpa) than did self-derogators ( $M = 3.14$ ,  $SD = 0.60$ ) and accurate self-appraisers ( $M = 3.28$ ,  $SD = 0.50$ ). Again, the effect sizes were large (i.e., .53 and .85, respectively). These findings suggested that the two expectation biases that occur in foreign language classes may have different antecedents.

**THE VALIDATION OF THREE SCALES MEASURING ANXIETY AT DIFFERENT STAGES OF THE FOREIGN LANGUAGE LEARNING PROCESS: THE INPUT ANXIETY SCALE, THE PROCESSING ANXIETY SCALE, AND THE OUTPUT ANXIETY SCALE**

Phillip Bailey, University of Central Arkansas; Anthony J. Onwuegbuzie, Valdosta State University; and Christine E. Daley, Muscogee County (GA) Schools

MacIntyre and Gardner (1994a) developed the Input Anxiety Scale (IAS), the Processing Anxiety Scale (PAS), and the Output Anxiety Scale (OAS) to measure anxiety at the input, processing, and output stages of the foreign language learning process. The IAS measures the apprehension experienced when receiving information in the second language; the PAS assesses the anxiety experienced when learning and thinking in the foreign language; and the OAS measures the apprehension experienced when speaking or writing in the foreign language. Apart from MacIntyre and Gardner (1994a), no other study has examined the psychometric properties of these instruments. This was the purpose of the present study.

Two hundred fifty-eight university students were administered the IAS, the PAS, and the OAS. Evidence of construct-related validity was provided via factor analysis, which revealed one specific factor for each scale, explaining 43.3%, 44.0%, and 44.7% of the variance in IAS, PAS, and OAS scores. Evidence of criterion-related validity was established via significant correlations between scores on each scale and a measure of global foreign language anxiety. A hierarchical regression analysis revealed that the IAS explained the majority (40.8%) of the variance in global foreign language anxiety.

The PAS and the OAS explained an additional 23.6% and 4.9% of the variance, respectively. A confirmatory factor analysis revealed that the three scales did not represent either (1) a single unidimensional scale underlying foreign language anxiety or (2) a three-factor model of anxiety. These findings combined provided evidence that, individually, the IAS, PAS, and OAS each yielded reliable and valid scores that were somewhat intercorrelated. However, the extent to which these scales, in their present form, adequately measured and reflected the three-stage conceptualization is in question--justifying further research in this area.

2:00 p.m.-2:50 p.m.  
Session W#027

**FIELD EXPERIENCE**  
**(Discussion Session)**..... Salon A

**PRESIDER:**Cynthia Harper, Jacksonville State University

**HOW DOES STANDARDIZED TESTING IMPACT THE STUDENT TEACHING EXPERIENCE?**

Lauren Rabb Wells and Linda Jones,  
Mississippi State University

Standardized testing is increasingly being used in school districts across the United States for the purpose of school accountability. In Mississippi, standardized test scores have become a primary factor in school district accreditation ratings. Test results for each school in the state are published yearly in The Mississippi Report Card. This comparison has increased the pressure on schools to improve test scores. The purpose of this study was to determine the effects of standardized testing on classroom instruction and student teaching.

In order to examine the effect standardized testing has on the student teaching experience,



supervising teachers in 35 elementary, middle, and junior high schools in northeast Mississippi were surveyed with an open-ended questionnaire developed by the researchers and tested for content and construct validity. The questions focused on teachers' perceptions of how standardized testing affected classroom instruction and student teaching. Student teachers majoring in elementary education were given the surveys during a seminar and asked to distribute them to their supervising teachers. A cover letter explaining that participation was voluntary and responses would be kept anonymous was attached to each survey. Supervising teachers were instructed to place the completed questionnaires in sealed envelopes, and student teachers returned the envelopes to the researchers during the following seminar.

Forty-five of the surveys were returned. Thirty-six teachers indicated that they were directly involved in administering the norm-referenced, standardized Iowa Test of Basic Skills. Nine kindergarten and first-grade teachers said that they were not involved in testing their students until the spring. The responses were categorized as positive, negative, and neutral toward standardized testing. Overall, 97% of the respondents stated that they felt standardized testing negatively impacted classroom instruction and student teaching. Supervising teachers' comments were included in the summary.

### **EXPLORING THE HORIZONS OF PRESERVICE INTERNSHIPS**

Emily A. Melvin, Pamela Boyd, Virginia Roy, and Kim Hardiman, Auburn University

The preservice internship experience is the cornerstone of the teacher preparation program in every college of education. Each preservice intern has individual skills, abilities and professional goals--Can one type of internship experience meet the needs of all preservice interns? Auburn's College of Education does not think so.

In an attempt to meet various and individual needs of preservice students, Auburn University offers internship opportunities in addition to the "traditional" experience. In addition to the "traditional" opportunity, Auburn University offers internships through the Disney-connected Celebration School in Orlando, Florida, and through the Consortium of Overseas Student Teaching (C.O.S.T.) program.

The purpose of this study was to examine each of the three internship categories provided at Auburn and to investigate the attitudes of a sample of student teachers who had been involved in each type of setting. Questionnaire responses and individual case studies provided data for this investigation.

Data demonstrating the responses of interns involved in each internship category provided information for guiding teacher education programs in the quest for improved and varied preservice internship experiences and opportunities.

### **THE PROFESSIONAL DEVELOPMENT SCHOOL EXPERIENCE EVALUATION**

Cynthia M. Gettys, Kathleen Puckett, Barbara M. Ray, Valerie C. Rutledge  
and Jeanette Stepanske, The University of Tennessee, Chattanooga

This study investigated perceptions toward the Professional Development School Experience (PDS), an early field placement in the Teacher Education Program, at a southern metropolitan university. The purpose of the study was to compare the attitudes of the four groups involved with the PDS experience: the PDS preservice students, the PDS site-based classroom teachers, the PDS site-based university faculty, and the PDS site-based administrators. Perceptions were analyzed in the following areas: Curriculum and Planning for Teaching, Roles of the Program Participants, University-PDS Relationships, and Program Perceptions.

A color-coded, 30-item questionnaire was completed by 250 PDS students, 5 PDS site-based administrators, 8 PDS site-based university professors, and 63 site-based classroom teachers. Additional qualitative data were gathered through open-ended questionnaires, interviews, and summary reflection papers written by the university PDS students.

Data analysis involved the application of descriptive statistics, the use of the correlated *T*-test, and ANOVA. Preliminary findings indicated very strong support by all four groups for the PDS experience. Differences approaching statistical significance were found between the perceptions of the PDS preservice students



and the PDS site-based university professors regarding the university professors' relationships and involvement with the PDS site experience.

**2:00 p.m.-2:50 p.m. SCHOOL IMPROVEMENT**  
**Session W#028 (Discussion Session).....Salon B**

**PRESIDER:**Dennis Zuelke, Jacksonville State University

**THE ACTUAL PROCESS TO GET SMALL CLASSES VS. THE MACRO VIEW**

Paula Egelson, SERVE Education Laboratory; C. M. Achilles,  
Eastern Michigan University; and Jeremy D. Finn,  
State University of New York at Buffalo

Some class-size reduction (CSR) critics have called CSR among the most expensive of school-improvement efforts. Large-scale studies, such as AIR and RAND's The Costs of Enrollment Increases and Class-Size Reduction (Draft: 3/99) have "modeled" the interactions of CSR and enrollments, and estimated that CSR in grades K-3 will increase education costs between five and six billion per year for each year of reduction, about the amount of annual Title I budget. This is a "macro" view.

Counter to this "doom and gloom" estimate are achievements of CSR to about 20:1 in K-3 in relatively poor states such as Texas (House Bill 72 in 1985) and Tennessee. Some low-wealth sites have achieved class sizes of 13:1-18:1 at relatively modest costs (e.g., Burke County, NC). Major obstacles were identified as (1) space, (2) personnel, and (3) "trade-offs."

This study reported on five local-district examples of achieving CSR to about 15:1 or 18:1, describing how local administrators interpreted and applied the research findings of CSR in specific schools. Five schools from three states were compared on context variables (size, percentage on free lunch, grades, etc.), and on "before and after" class sizes in grades K-5. Researchers interviewed administrators and faculty, reviewed records, and observed in the schools to obtain the data. Results showed that a variety of alternatives were used to get the small classes (e.g., combining grades, reassigning special teachers, reallocating resources). Achievement levels at all sites improved, in line with expectations derived from early experimental evidence.

Based upon the five examples and findings of other studies, actual and projected costs, benefits, and "trade-offs" were used as a basis for "real-life" suggestions of ways to achieve small classes in primary grades at minimum costs.

**A STATE-LEVEL INITIATIVE FOR TEACHERS BASED ON "BEST PRACTICES"  
THAT INCORPORATE TECHNOLOGY: A STORY OF SUCCESS**

Robert L. Clowers and Larry R. Dickerson,  
University of Arkansas at Little Rock

The study evaluated the Arkansas Leadership Academy's Teacher Institute (systemic) training program that introduced "best practices" as identified in the research literature that provided teachers with an integrated curriculum structure that included technology.

A survey instrument was used to collect data from participants of four extended training sessions, collectively termed a "Forum." Each Forum takes one year to complete. The surveys were mailed in early summer 1998 to cohorts of four recent Forums; 115 of 128 teachers responded to the survey. The instrument had five sections that paralleled the programs' objectives. Response items were based on best practices and program objectives. The instrument was pilot tested.

Descriptive statistics and the nonparametric "Sign Test" were used to note changes and determine if teachers' "prior to" and "after" Forum responses were significantly different. ANOVA and qualitative methods were also used.

Approximately one-half of the teachers had a master's degree or higher. Almost 10% of the



participants were male, and just over 9% were African American. Some 70% of the teachers represented elementary or middle schools, and 29% represented junior or senior high schools.

The Forums had a significant, positive, and sustained impact on teacher activities, behaviors, professional development, and the use of and access to technology. In many instances, teachers began to practice what they were learning during the course of their sessions rather than waiting until all sessions were completed. Gains continued in many areas after teachers "graduated" from their Forums.

This successful program may serve as a model to provide teachers with new instructional techniques that parallel a state's systemic change efforts. Such programs, however, need to be well thought out and have support from a variety of educational constituents. Positive impact was seen in classrooms, schools, and communities and may be expected to permeate statewide if supported at the state level.

**THE LESSON PLAN - ANOTHER DINOSAUR READY FOR EXTINCTION?**

Fran E. Holman, Debbie Hamilton, Debbie Thomas,  
and David Gullatt, Louisiana Tech University

From Herbart to Hunter, lesson planning has been explicated and espoused. Yet, there is a growing exclamation that the revered lesson plan is antiquated. Is the lesson plan, like dinosaurs, soon to be extinct? That was the research question.

This first tier of this project focused on the stakeholders most responsible for lesson planning: classroom teachers and principals. These stakeholders were surveyed to determine their level of involvement in writing lesson plans and/or evaluating lesson plans. The second tier of this project centered on university faculty who teach in a college of education and are, thus, responsible for teaching lesson planning to preservice teachers. The final tier of this research considered the assessments of lesson plans made by preservice teachers--those precariously poised between veteran teachers who KNOW and university professors who INSTRUCT.

At a distant glance, it would seem that there should be no disparity among teachers, principals, university professors, and preservice teachers about lesson planning. It is tacitly assumed that all share or enthusiastically support the same goals for schools. The results, though, suggested that, while all shared Shapiro's idea that "the purpose of schools should be learning," the path to that purposefulness was not singular.

**2:00 p.m.-2:50 p.m.                    DISTANCE EDUCATION**  
**Session W#029                    (Discussion Session)..... Salon C**

**PRESIDER:**Ginny Lane, University of North Texas

**ISSUES IN THE USE OF VIDEO CONFERENCING FOR DISTANCE EDUCATION**

Vahid Motamedi, Mississippi State University

Distance education is described as instructional delivery that takes place when learners and teachers are separated throughout the learning process by time and physical distance. Research indicates that distance education provides students with opportunities for learning through alternatives to regular class meetings. Furthermore, researchers report that distance education allows access to education for those who are unable to attend an educational establishment.

The paper began with a description of distance education, including an historical overview. The paper then presented five major issues concerning the use of video conferencing in distance education that have been identified in the research literature: (1) cost, (2) discipline, (3) instructional effectiveness, (4) scheduling, and (5) technological literacy. This was followed by a description of how distance education programs have effectively addressed each issue.

Solutions to some of these issues are emerging. After a careful consideration of each issue, guidelines were provided to help educators effectively deal with these potential obstacles. Those interested in the design, delivery, or evaluation of distance education--particularly teachers and educational administrators --found



this presentation useful for learning about this increasingly popular educational approach for the twenty-first century.

### **INTERACTION AT A DISTANCE**

Jo-Anne E. Schick and Elizabeth Kirby, State University of West Georgia,  
and Anthony J. Guarino, Auburn University

An initial study emphasized the importance of creating a distance learning environment in which all students could interact effectively with the instructor and their classmates so as to examine and articulate their ideas and beliefs. In this particular study, researchers examined the nature of interaction between the instructor and students and among students at a selected distance site on three separate occasions. Researchers were particularly interested in any effect that the presence or absence of the instructor might have had on the structure of student discourse and the construction of knowledge in the distance classroom.

Researchers conducted a naturalistic, qualitative study of a course taught via GSAMS (Georgia Statewide Academic and Medical System). Researchers observed all classes at the host site, and field notes recorded interactions between the instructor and students at all sites. In addition, a researcher at the distant site transcribed interactions between the instructor and students and among students.

Researchers were especially interested in differences in student-teacher interactions when the instructor was on-site vs. off-site. The three classes examined allowed researchers to determine changes in these interactions patterns. Preliminary results indicated that the pattern of student-teacher interactions varied markedly at the site when the instructor was present. In the absence of the instructor, students interacted less frequently with the instructor and were more reluctant to articulate their ideas and responses to the class as a whole. Students seemed much more willing to interact with the instructor and with classmates at other sites when the instructor was present.

This study underlined the importance of creating a distance education environment in which all students could interact effectively with the instructor and their classmates so as to examine and articulate their ideas and beliefs. In this way, students would be truly be "learning" in the constructivist sense.

### **WHY DO STUDENTS CHOOSE DISTANCE LEARNING? A COMPARISON OF CHOICE FACTORS OF PARTICIPANTS IN INTERNET AND INTERACTIVE VIDEO DISTANCE LEARNING COURSES**

Margaret D. Roblyer, State University of West Georgia,  
and Anthony J. Guarino, Auburn University

The authors' past findings have indicated that, although all students seemed to value interaction with instructor and other students, the need for interaction seems significantly more important to students choosing face-to-face formats, while other factors (e. g., control over learning pace and when to do course activities) are more important to those choosing distance learning (DL) formats. The current study surveyed 31 graduate students in university courses meeting via interactive video, and compared these responses with those of 43 community college and high school students in primarily Internet-based courses. It was hypothesized that students in interactive video courses would rate logistics/convenience factors as more important than other factors, and that ratings of students choosing Internet-based DL courses would differ significantly from ratings of students in interactive video courses.

Students in interactive video courses were participants in a master's or specialist degree program in media or instructional technology, taking courses required for their programs. All were adults (35-50 years old) who worked fulltime and were taking the distance course after the regular work day. Some of the community college students taking an earth science course were enrolled in their program on a part-time basis and some full-time. Their ages ranged from teenagers to older adults. High school students ranging from sophomore to senior levels were enrolled in chemistry, algebra, and American government courses offered by a "virtual high school."

The results confirmed the hypotheses, finding that students choosing interactive video courses



rated factors related to logistics/convenience, specifically, distance from the course site, as more important than other factors; and that students choosing Internet courses differed significantly from students in interactive video courses, who rated need for control as most important. These results have significant implications for helping organizations structure their DL offerings in ways that meet student needs and help ensure student satisfaction.

**2:00 p.m.-2:50 p.m.                    QUALITATIVE RESEARCH METHODS**  
**Session W#030                    (Training Session) ..... Salon D**

**TRAINER:**Kathy K. Franklin, University of Arkansas at Little Rock

**THE SEARCH FOR A NEEDLE-IN-A-HAYSTACK, PART II: THE ART OF CODING**

Because meaning in naturalistic inquiry is embedded in the words, symbols, or actions of the research participants, learning to hear and observe the data is a most important first step in interpretive research (Rubin & Rubin, 1995). Closely related to that important first step is the often mystifying act of coding (Merriam, 1998). Quality coding is the foundation of reliable qualitative data analysis (Miles & Huberman, 1994). Unfortunately, because of the ambiguous nature of the coding process, many neophyte researchers struggle in constructing that qualitative foundation.

The purpose of this one-hour training session was to share the experiences of the session facilitator with both "hearing" and "coding" naturalistic data. At the 1998 MSERA annual meeting, the facilitator presided over a two-hour training session in which participants collaboratively analyzed a focus group transcript from coding through developing a theoretical framework. This training session was intended to serve as a sequel to the 1998 training session in providing participants with an indepth study into one component in that process.

The learning objectives for this training session included: (1) understanding the techniques employed by qualitative researchers to ensure valid "listening" of the data, (2) applying those techniques in reading transcripts produced from extant research, (3) understanding coding techniques, and (4) analyzing extant transcripts using the coding process. To accomplish these four learning objectives, participants were guided through a three-phase training session. In the first phase, the facilitator shared data listening and coding techniques from the literature on naturalistic inquiry. Second, participants worked with a partner to manually code transcripts produced from personal interviews and focus group sessions. Finally, the facilitator demonstrated a computer-generated coding process. Each participant received a workbook to guide future qualitative coding.

**2:00 p.m.-2:50 p.m.                    STATISTICS, RESEARCH METHODS, AND SELF-PERCEPTION**  
**Session W#031                    (Discussion Session) ..... Salon E**

**PRESIDER:**Edward B. Reeves, Morehead State University

**REDUCING STATISTICS ANXIETY: A RANKING OF SIXTEEN SPECIFIC STRATEGIES**

Vicki A. Wilson, Wilmington College

As part of an ongoing study of statistics anxiety, 37 students in the Master of Education program in a small, private liberal arts college completed a Likert-scale instrument asking them to rate from 1 ("Not at all") to 5 ("A Great Deal") the extent to which 16 specific strategies reduced their statistics anxiety in the educational research classroom. Items were compiled from the literature on statistics anxiety and from the answers of students in previous research conducted by the author.

Means and standard deviations were computed for each item. Ranking at the top for reducing anxiety was allowing tests to be "open book/open note," followed by working with a partner in the computer lab. The next five items were focused on instructor behavior and characteristics: positive attitude, encouragement, reassurance that "We can do it!," recognition of anxiety, and use of humor. The use of rubrics, guidelines for completing and evaluating written and oral projects, ranked in the top half of items indicated by students as reducing their anxiety. Lowest in the rankings were doing



work that was "real world" oriented, support of peers outside class, and ability to get an "A" in the course.

Working with a group in class and outside of class on a research project ranked just below the middle of the items but showed more variability than the other items; as supported in the literature, cooperative learning can be both anxiety reducing and anxiety producing, depending on the composition of the group.

**INTRINSIC AND EXTRINSIC RELIGIOSITY: A META-ANALYTIC REVIEW OF RELIGIOSITY RESEARCH SINCE 1983**

Darrell R. Boles and Jwa K. Kim, Middle Tennessee State University

The purpose of this project was to use the methods of meta-analysis in order to uncover trends and developments of intrinsic and extrinsic religiosity of published research articles from 1983 to 1998. Since 1967 the Religious Orientation Scale (ROS) by Allport & Ross has been frequently used to measure intrinsic and extrinsic concepts of religiosity. Subsequently, the ROS has undergone two meta-analytic studies: one focused on social desirability from 1974 to 1994, and the other focused on all research prior to 1982. Intrinsic and extrinsic religiosity have subsequently encountered a number of methodological developments and conceptual discussions in published research.

Articles were collected through searches on both PsycLit and ERIC, in addition to the ancestry method. Meta-analysis revealed that the ROS has been utilized in 43 empirical studies published between 1983 and 1998. The ROS was also used more frequently than all other scales that measure intrinsic and extrinsic religiosity. The analysis also showed no real difference in the publication trend between the studies using the ROS or the Non-ROS scales to measure intrinsic and extrinsic religiosity. Thirty-one intrinsic-extrinsic correlations were used to determine an effect size correlation of  $r = -0.26$ . The variables most commonly correlated with the ROS were depression, self-esteem, and social desirability. Recommendations for future research in the area of intrinsic and extrinsic religiosity included the continued use of the ROS and the continued examination of the latest developing scales and the value they have to add to the already existing scales.

**THE RELATIONSHIP BETWEEN SELF-PERCEPTIONS AND STATISTICS ANXIETY**

Christine E. Daley, Muscogee County (GA) Schools, and Anthony J. Onwuegbuzie, Valdosta State University

Statistics anxiety, which is prevalent among graduate students, has been conceptualized as comprising several dimensions, including worth of statistics, interpretation anxiety, test and class anxiety, computational self-concept, fear of asking for help, and fear of the statistics instructor. Since students with high levels of statistics anxiety tend to perceive that other students have greater statistical proficiency than they do, and that their ineptness is a source of embarrassment, it is likely that self-perception is an antecedent of statistics anxiety. Thus, the purpose of this study was to investigate the relationship between seven dimensions of self-perception and six dimensions of statistics anxiety, using a canonical correlation analysis.

Participants were 146 students enrolled in graduate-level research methodology courses. The first canonical function ( $Rc12 = 32.8\%$ ) revealed that students with the lowest levels of perceived scholastic competence, perceived intellectual ability, and perceived creativity tended to have the highest levels of statistics anxiety associated with worth of statistics, interpretation anxiety, test and class anxiety, computational self-concept, fear of asking for help, and fear of the statistics instructor. A comparison of the standardized and structure coefficients suggested that perceived self-worth served as a suppressor variable. The implications of the findings were discussed.

2:00 p.m.-2:50 p.m.  
Session W#032

**EXCEPTIONAL EDUCATION**  
**(Discussion Session)..... Salon F**



PRESIDER: Qaisar Sultana, Eastern Kentucky University

### **QUANTITATIVE ANALYSES OF A STUDY INVESTIGATING THREE SPELLING INTERVENTIONS AND STUDENTS WITH LEARNING DISABILITIES RECALL**

Johan W. van der Jagt, University of West Alabama

This study investigated three spelling interventions to increase the spelling accuracy of students with learning disabilities. The primary purpose of the study was to determine the effectiveness of three spelling interventions on students, with learning disabilities short- and long-term spelling accuracy of high-frequency words written in isolation and in context. The two secondary purposes were to investigate the relationships of factors (e.g., auditory word discrimination ability, and vowel precision) among students with LD, and interactions among selected variables (e.g., level of auditory word discrimination) and type of spelling intervention.

Thirty six randomly selected third-, fourth-, and fifth-grade students with LD were assigned to three interventions. The interventions consisted of a groups learning how to spell high-frequency words utilizing: a traditional spelling procedure, a multisensory without perceptual-vowel enhancement procedure where vowels were similar in intensity as consonants, and a multisensory with perceptual-vowel enhancement procedure where vowels were written in black marker to heighten their intensity. The pre-posttest experimental design posttested the students with LD's short-term spelling accuracy for words in isolation and in context directly following the completion of each intervention, and long-term spelling accuracy 19 days following each intervention.

A qualitative aspect of the study consisted of the development of a spelling error analysis system to determine types of spelling errors. Quantitatively, ANCOVA's were calculated for primary type vowel error (omissions, additions, or substitutions) and vowel precision. No significant interactions among level of vowel precision with type of intervention were found. Significant differences for vowel omission scores by group and across grade levels were found. The findings suggested different emphases in the teaching of spelling.

### **ADMINISTRATION OF SPECIAL EDUCATION: A LITERATURE REVIEW**

Vicki Prouse Carter, Harrison County (MS) Schools, and Alex Carter,  
Mississippi Gulf Coast Community College--Jackson County

Educational administrators, especially administrators of schools or programs for students with disabilities, must analyze the basic philosophies of school administration and management to determine their effectiveness when applied to this setting. Administrators within the area of special education must consider the dignity of each individual student and create an educational environment that meets the multiple needs of special population students. This situation is also true for those administrators working with large inclusion populations in a regular school setting. Therefore, the objective of this research was to determine what administrative characteristics/qualities and/or management styles were needed to be an effective administrator/leader of a special populations program or school.

The literature review included references from educational journals, ERIC documents, books, and electronic sources. The questions to be answered by this literature review included: (1) What administrative characteristics and/or qualities are needed to be an effective administrator in a special education program or school? (2) Are different management styles required for special education administrators? (3) What administrative strategies are needed to be effective in a special education setting? and (4) What are the implications for the training of educational administrators for special education settings as identified by this research?

The results of this literature review indicated several interesting concepts related to the administration of special education settings. To be an effective special education administrator, individuals should have extensive experience in various special education settings and levels. General administrative strategies and management styles must be adapted, preferably within the training process, to ensure a greater chance of success in administering special education.

### **PREPARING PRESERVICE TEACHERS FOR INCLUSION**



Beth H. Counce and Anne Hamilton, University of Montevallo

With the passage of the Individuals with Disabilities Act (IDEA) in 1990, and the reauthorization in 1997, students with special needs are more frequently being placed in regular classrooms, and student interns are more frequently being placed in inclusive classrooms for their internship. As our institution considers the option of offering Elementary Education majors dual certification, certification in regular education and certification in mild learning handicaps, this study was concerned with the perceived level of preparation of the student interns who had little training in working with students with special needs and who were currently placed in inclusive settings.

A survey related to experiences students had in working with students with special needs during their internship was administered to 57 student interns at the completion of their internship. Thirty-three participants were Elementary/ Early Childhood majors, and 24 participants were secondary education majors. All students indicated that they worked with students with special needs, with the majority of interns being placed in inclusive classrooms. Phone calls were made to interns to obtain additional information about their experiences, and calls were made to cooperating teachers to obtain information from their perspectives.

Analysis of the surveys indicated that the majority of the students felt prepared to work with students with special needs. While many students felt prepared to work with students with special needs, they indicated that they had assistance from the cooperating teacher or the special education teacher. Responses to open-ended questions related to students indicating their specific needs and identifying any program needs to help better prepare them for working in inclusive settings were mixed. The most common response was the need for more actual experience in classes that included students with special needs. The results of this study were to be considered for future course and program changes.

**3:00 p.m.-3:50 p.m.      TECHNOLOGY AND HIGHER EDUCATION**  
**Session W#033      (Discussion Session)..... Salon A**

**PRESIDER:**Gunapala Edirisooriya, East Tennessee State University

**FACULTY ATTITUDES ABOUT THE USE OF TECHNOLOGY  
IN THE COLLEGE CLASSROOM**

Steve Marvin, Kathy K. Franklin, Rob Edleston, Tricia Satkowski-Harper, Christy Oberste,  
and I. J. Routen, University of Arkansas at Little Rock

There is no doubt that the technology explosion has influenced college education. However, many educational technologists agree that the explosion has failed, as was first predicted, to transform college education (Schofield, 1995). It has been suggested that one culprit of this failed transformation may be the lukewarm reception by college faculty to instructional technology. A study by the University of Southern California revealed that only 53% of college and university faculty used computers to aid in the educational process (DeSieno, 1995). While that study may be dated, in a recent article, Lehman (1998) identified several reasons why college faculties, still, are not warming to the use of technology.

The purpose of this study was to explore faculty attitudes about the use of technology in the metropolitan university classroom. Researchers conducted four "electronic" focus group sessions with faculty at a metropolitan university via networked computers housed in a decision-support center on campus. The focus group sessions, homogeneous based on professorate rank, included a total of 29 participating faculty. A three-step content analysis procedure was used to analyze the qualitative data. First, the transcripts were manually coded and audited by a team of eight researchers. Second, a team of four researchers reduced the codes into attitude themes and patterns with a third research team, subsequently, developing the theoretical framework.

The resulting theoretical framework included six constructs explaining faculty attitudes about technology in the college classroom. Those constructs included, the influence of technology on (1) student success, (2) student interaction, (3) college pedagogy, (4) access to information, (5) the college classroom, and (6) the traditional methods of instruction. Furthermore, the framework addressed faculty attitudes concerning the



influence of three educational issues on technology: (1) teacher control of the classroom, (2) nuances of the ideal classroom, and (3) theories of student learning.

**REVIEW OF THE LITERATURE CONCERNING INSTRUCTIONAL TECHNOLOGY STRATEGIC PLANS AT CARNEGIE I UNIVERSITIES**

J. Patrick Brennan II, The University of Southern Mississippi;  
Daniel W. Surry, University of South Alabama; and  
Marshall G. Jones, The University of Memphis

This presentation described a review that examined the professional literature concerning instructional technology strategic plans at Carnegie I universities. Instructional technology strategic plans; are used by universities to guide the process of infusing technology into the classroom. The purpose of this review was to identify professional literature associated with IT strategic plans, also, to determine what the literature says should be included in those plans. The review sought information concerning the present number of plans in place at Carnegie I institutions, the degree to which the plans have been implemented, common elements of the plans, and any information about the success or failure of the plans.

This literature review is part of an on-going investigation into the adoption, implementation, and utilization of instructional technology in higher education. The literature is important because it serves as a basis for the next phase of the study in which IT strategic plans at all Carnegie I institutions will be collected and analyzed. The overall study is important because it will provide a framework for the development of IT strategic plans at other institutions. The study also described the process by which successful strategic plans were developed.

The results of the review were presented in a draft report based on the available literature. The presenters provided all session attendees with paper copies of the draft report as well as copies of the PowerPoint slides used in the presentation. Finally, the presenters provided attendees with the URL of a WWW site they were creating to disseminate this information.

**3:00 p.m.-3:50 p.m**                    **EDUCATIONAL REFORM AND ENGLISH EDUCATION**  
**Session W#034**                    **(Discussion Session).....Salon B**

**PRESIDER:**Linda W. Morse, Mississippi State University

**LITERACY AND EFFECTIVE TEACHING IN DIVERSE CLASSROOMS**

Dana Lynn Key, The University of Alabama, and  
Cassandra Harrington, Athens (AL) High School

This study described the perceptions of four English language arts teachers concerning: (1) their effectiveness in teaching diverse literacies, (2) opportunities for practicing effective strategies and pedagogical skills, (3) opportunities for improving teaching and learning, and (4) opportunities and needs for professional development. The study was designed by the researcher to direct those teachers in action research in their classrooms.

The teachers were participants in a phenomenological qualitative study to determine and explore ways in which English educators could most effectively plan and implement their teaching to best serve the multiliteracies of the diverse student populations in today's schools. The researcher collected data from January through April from focus groups, interviews that were taped and transcribed, and document analysis. There were checks for triangulation of the data, peer debriefing, and member checks of the transcribed interviews to assure validity and reliability. The researcher was a participant observer on many occasions and made field notes of those visits to the school.

As the twentieth century comes to a close, teachers and teacher educators are searching for ways to better address and serve the students in diverse classrooms. Standards for learning and recent calls for reform in



education have recommended that teachers reevaluate how they teach, how students learn, what literacies should be taught, and when teachers should teach those literacies. Many researchers have cited that laboratory based research improved classroom practice, but that action research or "reflective practice" by classroom teachers was extremely beneficial to improve teaching.

While this study did not have implications for every College of Education, intern, or classroom teacher, it revealed insight into teaching the multiliteracies of the diverse classroom of students in today's schools.

## **EVALUATION OF EDUCATIONAL TECHNOLOGY IN TEN KENTUCKY MIDDLE SCHOOLS**

Barbara A. Kacer and James R. Craig, Western Kentucky University

The Kentucky Educational Reform Act (KERA) of 1990 is a massive education reform bill that specified many initiatives to improve public schools in Kentucky. The Concerns Based Adoption Model (CBAM) of education innovation implementation was the theoretical basis for a three-year, longitudinal evaluation study that focused in part on the implementation of educational technology.

A sample of 10 Kentucky middle schools was chosen to represent eight geographic regions of the state and five categories of student achievement: improving scores when baseline was in the upper, middle, or lower quartile, and no improvement in scores when baseline was in the upper or lower quartile.

One of three diagnostic CBAM assessment tools is the Innovation Configuration Component Map, which specifies key component features of an innovation and level of use from "ideal" to "no use." The Educational Technology Innovation Configuration Component Map (ETICC Map) was developed and field tested by teams of educators who systematically identified and evaluated relevant components and component variations using established procedures.

The ETICC Maps were completed by interviewing the Coordinator of Educational Technology in each school. Selected map characteristics were verified via direct observation of classrooms, libraries, and computer laboratory facilities. In addition, 15-minute interviews were conducted with more than 200 teachers regarding their educational practices.

The ETICC Map data reported provided a profile of educational technology use as related to overall student achievement in selected Kentucky middle schools. Based on the use of the ETICC Map, teacher interviews and school observations, a streamlined ETICC Map had been created and its use was discussed.

## **APPROACHES IN CREATING SIMILAR SCHOOL/DISTRICT COMPARISON GROUPS AND REPORTING COMPARATIVE FINDINGS**

Xiujuan (Susan) Yuan, Susan Kochan-Teddle, and Bobby Franklin,  
Louisiana State Department of Education

As of 1997, 46 of the 50 United States had either already implemented or were in the process of designing performance-based education accountability systems. Most state accountability systems currently compare student performance to state standards without considering intervening variables such as student demographic characteristics. Though some researchers have recommended the use of both absolute and relative performance indicators, it remains controversial whether comparative performance statistics for schools with similar student demographic or school organizational characteristics should play a role in accountability systems.

In the process of designing Louisiana's School and District Accountability System, policy makers have debated whether similar school comparisons should be reported, and if so, what form such statistics should take. To inform the debate, a national survey of all 50 states was conducted to investigate how other states have been handling this issue. Questions posed to the state department of education personnel included: (1) What variables and methods are used in constructing similar school comparison groups? and (2) How is the comparative information used for accountability purposes.

The survey found that 25 states (50%) either currently produce or plan to produce similar school comparison results. The various models used in constructing and reporting similar schools performance were



reported. The types of variables used and the statistical methods employed were discussed. Finally, approaches in reporting and utilizing similar school comparative information were demonstrated.

Preliminary analysis of the survey findings indicated that similar schools comparison information had a great potential in assisting schools in the areas of data-based self-evaluation, diagnosis, and problem solving, provided that the information was used appropriately. The similar school comparison, therefore, can be a very important component in the accountability system.

**3:00 p.m.-3:50 p.m**                    **COGNITION AND LEARNING**  
**Session W#035**                    **(Discussion Session)..... Salon C**

**PRESIDER:**Kathy Hulley, Lincoln Memorial University

**QUALITATIVE ANALYSIS OF METACOGNITION TRAINING PROJECT:  
SELF-EFFICACY IN STUDENTS WHO SCORE LOW ON THE ACT**

J. Stephen Guffey, Larry C. Rampp, and Steven G. Lesh, Arkansas State University

This qualitative case study examined the impact of metacognition training on the self-efficacy of students scoring low on the ACT. The subjects were enrolled in a developmental study skills course and volunteered to participate in an eight-week metacognition skills training program. The researchers were interested in attitudes and behaviors related to academic self-efficacy resident in this group who represented academic under-achievers.

Three forms of data were collected to facilitate triangulation. Three 30-minute observations of the subjects, semi-structured interviews, and a reflective journal kept by the metacognition trainer served as data collection techniques. A grounded theory approach to data analysis was used.

This group began the metacognition skills training program with a low level of academic self-efficacy demonstrated by their passivity, caution, need for affirmation, and low level of help seeking behavior. Each of these problems was addressed and changed positively through the eight weeks of training, demonstrating the very real possibility that lack of academic success was based less in cognitive ability and more in the affective domain. The low academic self-efficacy initially demonstrated by this group stemmed from two primary affective sources: (1) acceptance: The members of this group suffered from a lack of acceptance with regard to things academic, and (2) lack of relevance: The subjects in this case frequently saw schooling as a process for getting a job. They did not make the connection between learning and the solving of life problems.

These subjects exhibited the ability to become engaged and effective students. The authors suggested that the lack of academic success represented in this subject pool lay less in cognitive deficits and more in poor affective approaches to schooling.

**TEACHING FOR TRANSFER: CLASSROOM INSTRUCTIONAL IMPLICATIONS**

Gerald J. Calais, Marilyn Larmon and Charlie Sparks, McNeese State University,  
and JoAnn Belk, Mississippi State University--Meridian

Although the transfer of basic skills, knowledge, and thinking skills is integral to our educational aspirations and expectations, many students believe that little of what they learned in school benefited them in later life. While some of these failures of transfer may be intrinsic to how people think, others may be preventable by using judiciously selected instructional strategies.

Articles and studies focusing on the following topics were selected: (1) the role of conceptual understanding in transfer, (2) the problem of activation of conceptual knowledge, (3) lateral and vertical transfer of automated basic skills, (4) rational task analysis, (5) strategy transfer, and (6) instructional and curriculum implications.

The emerging picture suggests that obstacles to transfer differ depending on which of three components of expertise is entailed: (1) conceptual understanding, (2) domain-specific basic skills, or (3)



domain-specific strategies. Research focusing on these three components suggest the following: first, an increase in conceptual understanding increases the probability of transfer (however, possession of such knowledge does not guarantee its successful activation); second, lateral and vertical transfer of domain-specific basic skills depends upon the degree of skill overlap between a known skill and a new skill; and third, the successful transfer of domain-specific strategies is contingent upon the learner's conscious self-evaluation of a strategy's utility.

Implications of teaching for transfer include: using think-aloud protocols from informal interviews with subject matter experts to identify relevant conceptual knowledge; having students learn knowledge originally in a problem-solving context, if the knowledge is to be activated in a problem-solving context; rejecting or modifying curriculum materials considered inadequate should not include rejecting the notion of prerequisite skill relationships; motivating learners to self-evaluate includes the important elements of having clear records reflecting when strategies were employed and what other results were and then asking learners to draw conclusions from these data.

**CONNECTING SCHEMA TO PROMOTE LEARNING IN THE MUSIC DISCIPLINE**

Richard D. Good and Jennifer M. Good, Auburn University

Examined in this study were the learning processes of musicians in both musical contexts as well as reading contexts in order to explore possible schema connections. In addition, the possible motivational and cognitive effects that can occur when an individual makes these natural connections in schema were explored.

The researchers completed literacy profiles of three musicians, all instrumentalists. The three musicians were selected because they were recognized by their peers as accomplished musicians, and they represented three different levels of professional development: an undergraduate music education major, a graduate student with teaching experience, and a university professor. Each musician completed the Teale-Lewis Reading Attitude Scale and participated in a one-hour, semi-structured interview prompting recall of early memories of learning to read as well as learning to play an instrument. The responses on the reading attitude scale were compared to their philosophies of music attitudes, and the interview responses were analyzed for similar learning themes and connections between the two different disciplines.

The individuals' responses suggested that a similarity in teaching pedagogy occurs in both learning to read and learning to play an instrument. Specifically, the musicians noted similarities in the initial introductions to the learning process when learning to decode text in both written and musical literature, an emotional commitment and emotional connection necessary in both disciplines in order to interpret text successfully, and the description of both learning processes as opportunities for social interaction and performance.

The findings of this study implied that educators can draw upon familiar schema from earlier learning experiences in one discipline to introduce and enhance learning in new and unfamiliar disciplines. The findings also suggested that, when introducing a student to a new learning process, making a connection with a familiar learning process in another discipline is comforting and motivating.

**3:00 p.m.-3:50 p.m**  
**Session W#036**

**EVALUATION**  
**(Discussion Session)..... Salon D**

**PRESIDER:**Beverly Klecker, Kentucky State Department of Education

**THE CHALLENGES AND PITFALLS OF LARGE-SCALE EVALUATION OF A SEX EDUCATION PROGRAM**

John Mark Trent, Gerald Halpin, and Glennelle Halpin,  
Auburn University

The purpose of this investigation was to explain the challenges and pitfalls associated with the evaluation of a county-wide, abstinence-based sex education program that involved approximately 400 students in



the seventh grade and 400 students in the ninth grade.

The challenges and pitfalls surrounding such an endeavor are many. Addressed were problems associated with gaining support from the local community to allow such a program to be implemented along with the problems with obtaining parental permission for student participation. The adapting of the implementation of the sex education program and evaluation requirements to the local school district's policies and procedures were also addressed along with the problems of replication of the sex education in adjacent school districts. Also considered were the internal validity design issues when evaluating sex education programs.

Unique problems associated with administration of an instrument assessing sexually sensitive information were also addressed. Also discussed were problems associated with scanning, correcting, merging, and analyzing the data. Finally, the art of evaluating sex education programs when the measures, designs, and data quality fall short of the desired methodological standards were explored.

**ARE SEXUAL ABUSE PREVENTION PROGRAMS AND EVALUATION TOOLS DEVELOPMENTALLY APPROPRIATE FOR ELEMENTARY STUDENTS?**

Beth H. Hensley, The University of Memphis

Over the past two decades there has been a proliferation of programs focused on primary prevention of child sexual abuse. Many of these programs have developed as a result of increasing community awareness of children's vulnerability to this form of abuse. In addition, inclusion of primary prevention programs into elementary school curricula has been mandated in numerous states. Although the intent of sexual abuse prevention programs is to increase children's specific knowledge and skills, various research reports and related professional articles have called for the formulation of programs and evaluation instruments that are more developmentally appropriate.

A computer-generated search of ERIC documents (1966-98) was performed using the identifier "sexual abuse prevention." A "hands-on" search was done of *Child Abuse and Neglect: The International Journal* for the past 12 years (1987-98). From the initial search procedures, studies of sexual abuse prevention programs were identified that included children in first through fifth grade. Studies were then selected for inclusion based on descriptions of program content, format, methods and/or evaluation instruments that were sufficient for analysis.

The studies reported a variety of program formats or methods for transmitting the content including lecture-discussion, role playing, dramatic presentation/theater, and print materials. Few research reports either explicitly or implicitly addressed concepts of cognitive development in middle childhood such as referring to Piaget, Vygotsky, information processing model, zone of proximal development, scaffolding, concrete operations, recognition/recall, or related terms in the development of sexual abuse prevention programs. As part of implications, numerous studies present the need for more program evaluation, especially the creation of more developmentally appropriate evaluation tools.

These findings have implications for classroom teachers, school administrators, parents, and community service providers in developing, presenting, and evaluating sexual abuse prevention programs for school-age children that are effective, practical, meaningful, and theoretically grounded.

**3:00 p.m.-3:50 p.m**                    **MULTICULTURAL EDUCATION**  
**Session W#037**                    **(Training Session) .....Salon E**

**TRAINER:**Linda F. Cornelious, Mississippi State University

**IMPROVING TEACHER EDUCATION PROGRAMS: PREPARING TEACHERS TO TEACH IN MULTICULTURAL CLASSROOMS**

As the history of public education has unfolded, schools are feeling the impact of the nation's increasing cultural diversity. Yet, we see teachers who have had little or no experience in dealing with students from other cultures, and who have had little or no formal preparation, attempting to work with issues of race and culture in their diverse classrooms. Globalization of education in a multicultural society has led to the reformation



of teacher and teacher training.

Preservice teachers must now train in a broad-based liberal arts program to ensure a comprehensive knowledge in history, science, math and the arts. Because multicultural approaches to education are more complex than commonly acknowledged, teachers must now be prepared to teach students who differ in gender, cognition, ethnicity, physical ability, primary language, cultural heritage and socioeconomic levels. Unquestionably, multicultural education must be an integral element of the teacher preparation program, not merely an added component addressed in one or two courses or by one or two instructors.

The purpose of this session was to introduce participants to the basic principles of multicultural education and to offer practical suggestions for teaching in the culturally diverse classroom. The presenter explained how teachers can learn to create effective and positive learning environments for all students regardless of their culturally diverse backgrounds. Topics for discussion, practical examples, and activities focused on: (1) understanding and valuing diversity, (2) honoring diversity through understanding teaching and learning styles, and (3) implementing teaching activities and strategies in the culturally diverse classroom.

**3:00 p.m.-3:50 p.m**                    **ATTITUDES**  
**Session W#038**                    **(Discussion Session)..... Salon F**

**PRESIDER:**Ann Arnold Adams, Leflore County (MS) School District

**STUDENTS' "UNDERSTANDING" OF EXTRACURRICULAR ACTIVITIES**

Dave S. Knowlton, Crichton College

The goal of this study was to explore the value of high school extracurricular activities as understood by first-year college students. Given educational budget constraints and secondary students' needs to earn money and fulfill increasing family responsibilities, such a study was necessary to help determine the value of school-based extracurriculars. To accomplish this goal, a hermeneutical framework was used to frame data collection and analysis.

Participants--students enrolled in a first-year college writing course--were asked to complete a questionnaire dealing with their high school extracurricular activity participation. The questionnaire asked about the benefits and disadvantages of extracurricular activity involvement. It also asked participants to write about specific situations that they recalled from their high school participation. Follow-up interviews were conducted with participants as a means of triangulating findings.

Data analysis was based on a combination of "Thematic Analysis" and qualitative "Splicing." Themes that emerged from the data using these procedures were used to develop a storyline that best explained the ways participants understood the value of extracurricular activities.

The major findings of this study included the following: (1) the social aspects of extracurricular involvement were valued by participants; (2) the content inherent to the activity--passing a ball, for example--was not always highly valued by participants; (3) participants valued competitive processes; and (4) there seemed to be an inherent conflict between the benefits of involvement and the large time demands required for participation.

A variety of implications were developed based on these findings. In short, practitioners and policy makers seemed to have had an obligation to accentuate the social and competitive processes of extracurricular activity involvement. More research is needed to determine students' perceptions of extracurricular activity participation.

**ADOLESCENT IDENTITY DEVELOPMENT: VIEWS OF THE FUTURE**

David Bell, Arkansas Tech University; Linda Garris Christian, Adams State College; and  
Robert L. Kennedy, University of Arkansas at Little Rock

The purpose of this study was to focus on adolescents' views of the future, their expectations, and



how they think they will achieve these expectations.

The instrument used was the USA Weekend Teen Survey reprinted with permission from the May 18-20, 1990 issue. The survey addresses students' perceptions of the future, as well as their personal plans, goals, and college interests. Over several semesters this instrument was given to 886 students ages 12-19 in rural Arkansas.

Because the responses were available as frequency counts and the groups were usually nominal, the chi-square test was used for the investigation, and the alpha level used was 0.001 to minimize the likelihood of type I errors. Results relating males and females followed by the results relating the age group were presented for each item. Cramer's V was included as a measure of the effect.

There was a statistically significant difference between males and females and what they wanted to be when they grew up. Females were more inclined to be teachers and non-doctor medical professionals. Males were more likely to want to be athletes, business persons, and police officers or members of the military. The most popular male goal was to be an athlete. Most respondents wanted a good education and a job that would give satisfaction. Communication and trust were important in marriage for females; sex, for males. Most respondents felt that they would see a black president by the time they were 40 and that a fifty-first state would be added. Females were more concerned about dying.

The results and implications of this study will be useful for parents and teachers. Adolescents' views of the future serve as important guides in their decision making.

**4:00 p.m.-4:50 p.m. STATISTICS**  
**(Extended to 5:05) (Discussion Session)..... Salon A**  
**Session W#039**

**PRESIDER:**Larry G. Daniel, University of North Texas

**VARIABLE DELETION STRATEGIES IN CANONICAL CORRELATION ANALYSIS**

Jesus Tanguma, Texas A&M University

A large number of experiments in the behavioral sciences involve more than just one set of variables with a given set of predictors. Consequently, a given researcher may be faced with, say, two sets of variables and several variables in each set. In such a situation, canonical correlation analysis is the appropriate method of analysis. However, as the number of variables, as well as the number of predictors, increases the interpretation of the results becomes more difficult. Moreover, the more variables are in the model, the more difficult it may be to generalize the results. In an effort to make the results of a study more parsimonious and generalizable, often researchers wish to delete variables from a study. That is, researchers feel that more is not always better, but sometimes may be worse.

This paper presented three variable deletion strategies in canonical correlation analysis. The first strategy used the canonical communality coefficients of the three functions to decide which variable to delete. The second function also used the canonical communality coefficients but only after deleting the least contributing function. The third strategy used weighted canonical communality coefficients on all three functions. All three strategies provided the researcher with a more parsimonious canonical solution. These methods were illustrated using a small heuristic data set in order to make the discussion more concrete.

**SAMPLE SIZE RULES OF THUMB FOR MULTI-LEVEL MODELS**

Frank R. Lawrence and James E. McLean,  
The University of Alabama at Birmingham

Social science researchers commonly use rules of thumb to guide their data analysis. One prevalent rule of thumb used by the linear regression artisans is the 10-observation rule. There is no complement to the 10-observation rule for use with hierarchical linear models (HLM). There are three reasons HLM analysis



lacks analogous rules of thumb. First, hierarchical linear modeling is in an early stage of development. Hence, researchers have not found it necessary to tackle rules of thumb. Second, hierarchical models are more complex. Hierarchical models potentially extend to multiple levels making it hard to prescribe rules of thumb that apply to the diverse situations encountered by HLM modelers. Finally, in the absence of contradictory research HLM practitioners have assumed the rules that apply to linear regression hold for multi-level models. Yet, the assumption has not been validated.

This research evaluated the rule of thumb that 10 observations per predictor variable is a rule that holds for multi-level models. With multiple level-1 coefficients serving as level-2 criterion variables, the total number of predictors is not clear. If all of the level-1 coefficients were correlatively independent then the 10-observation rule of thumb would apply to each of the level-2 equations. It would appear that requiring 10 observations for each of these equations is conservative.

This study was a Monte Carlo experiment. The experiment consisted of a two-level hierarchical cross-sectional nested model. Cluster was nested within treatment condition, and subjects were nested within cluster. There were four levels of observation per predictor, three levels of level-1 sample size, two levels of level-2 sample size, and two levels of treatment (control, and treatment). Each model was replicated 200 times. All models were constructed from random multivariate normal variables.

**USES AND MISUSES OF THE CORRELATION COEFFICIENT**

Anthony J. Onwuegbuzie, Valdosta State University, and  
Larry G. Daniel, University of North Texas

The correlation coefficient is the most common statistic in educational research. Often, use of the correlation coefficient is justified; however, like all statistical indices, it is subject to misuse. That is, many examples exist wherein these statistics are misinterpreted. The purpose of this presentation was to provide an indepth critical analysis of correlation coefficients. As part of this critique, analytical and interpretational misconceptions were presented. Phenomena, such as the "crud factor" and "positive manifold," were discussed.

In interpreting correlation coefficients, researchers often infer cause-and-effect relationships, even though such relationships can, at best, only be determined from experimental studies. Many misconceptions stem from a failure to recognize that correlation coefficients are part of the general linear model (GLM). That is, correlation coefficients are special cases of all other families of the GLM, including *t*-tests, multiple regression, analysis of variance, canonical correlation, and structural equation models. As such, the assumptions that apply to these more complex members of the GLM (e.g., linearity, normality, independence, homogeneity of variance) also are pertinent to correlation coefficients.

Misuses of correlation coefficients are most apt to occur when researchers fail to consider these statistical assumptions. The consequences of such practices were discussed. Other inappropriate practices that occurred were highlighted, including failure to interpret confidence intervals and effect sizes of correlation coefficients, failure to adjust for Type I error, failure to consider the power of tests of hypotheses, failure to consider whether outliers are inherent in the data set, and failure to recognize how measurement error can affect correlation coefficients.

Perhaps the most common error in interpreting correlational analyses has been the failure to evaluate empirically result replicability (i.e., internal replication). A heuristic example was utilized to illustrate how jackknife and bootstrap methods can identify unstable correlation coefficients derived from the full sample.

**4:00 p.m.-4:50 p.m. CULTURE AND SCHOOL ENVIRONMENT**  
**(Extended to 5:05) (Discussion Session).....Salon B**  
**Session W#040**

**PRESIDER:**Elizabeth Lavergne-Pinkett, University of Southwestern Louisiana

**THE TEACHING PROFESSION AS PORTRAYED BY POPULAR FILMS**



Paige L. Tompkins, Western Kentucky University

This study was conducted to identify and categorize the characterization(s) of teachers presented to the public via popular films. The researcher asserted that, at the least, the public is exposed to these portrayals, while it is possible that public perception of teachers is actually, and perhaps almost entirely, shaped and influenced by them.

Most of the findings presented in the study were the result of the researcher's direct observation of numerous films in which prominent characters were teachers. A smaller portion of the findings were obtained through secondary sources.

Each film was analyzed using a variety of qualitative methodologies to identify emergent patterns and trends. The prevalent patterns that surfaced in the popular media's characterization of teachers were then organized into several distinct categories, ranging from extremely negative to almost superhuman, each of which was discussed in the study. Implications for education suggested by, and addressed in, the study included the following: public support for education funding; the attractiveness of teaching as a profession, the public image of teachers, schools, and education; and professional expectations of teachers.

### **TEACHER-STUDENT CLASSROOM INTERACTIONS AND CULTURAL DIVERSITY: A DECADE REVIEW OF THE LITERATURE**

Melanie A. Bolt, Cecile Cachaper, and Jim C. Fortune, Virginia Tech University

The literature concerning teacher-student interactions in culturally diverse classroom environments is diffuse and complex. Many articles are found in the form of position papers rather than systematic research that, for example, recommend specific policy and pedagogy that often translate into particular classroom interactions between teachers and students. Such practices are disconcerting, given that the bulk of relevant literature is comprised largely of opinion papers. The present review summarized the state of knowledge in this area from the nineties.

In order to review the current literature regarding teacher-student interactions in culturally diverse classroom settings, the following electronic databases were utilized to conduct key word searches: ERIC, PsychLit, and Educational Abstracts. In ERIC alone, 160 relevant articles were identified. Subsequent to the key word searches, the qualitative software package, NUDIST (1998, version 4) was used to categorize and manage the content of relevant articles for this review. Qualitative software packages such as NUDIST allow researchers to systematically review a given area of interest. Too often, researchers seem to select articles for review based on their own deductions (or perhaps biases) rather than examining a breadth of literature that should be analyzed in a systematic manner. Therefore, a primary goal of this review initially involved casting a wide net to promote a more inductive approach to reviewing the literature. The combination of casting a wide net as well as using NUDIST enabled a more comprehensive literature review that may provide direction for future research and pedagogical practices.

### **SCHOOL LEVEL DIFFERENCES IN TEACHERS' PERSPECTIVES OF MULTIPLE DIMENSIONS OF SCHOOL CULTURE**

Douglas R. Davis, Chad D. Ellett, and John K. Rugutt,  
Louisiana State University

The purposes of this paper were to: (1) expand and explore the structure of a newly developed measure of multiple dimensions of school culture; (2) report findings from a study that compared elementary, middle school/Jr. H.S., and H.S. teachers' perceptions of elements of school culture; and (3) discuss the implications of understanding school level learning environments from a school culture perspective and the need to be sensitive to school context when measuring teachers' perspectives of school culture.

The Revised School Culture Elements Questionnaire (RSCEQ) was administered to 3279 teachers in 40 schools in a large urban school district in the southeastern U.S. over a two-week period in the fall 1997. Five



kinds of data analyses were completed: (1) descriptive statistics for instrument items and subscales, (2) a series of exploratory factor analyses to identify latent constructs measured by the RSCEQ, (3) alpha reliabilities of the factored RSCEQ subscales, (4) bivariate correlations to explore relationships among and between teachers' perceptions of elements of school culture and, (5) replicated factor analyses for sub-samples of teachers divided by school level.

The factor analysis results for the total, usable sample (n=3095) supported a five-factor solution. This solution and an accompanying set of decision rules retained 51 of the original 78 items. The five factors identified and the Alpha reliability of each were as follows: vision/leadership (.93), professional teaching and learning (.89), professional commitment (.87), openness/collaboration (.75), and professional interactions/communications (.76). Intercorrelations among the five factored subscales varied from .37 to .67. For teacher groups partitioned by school level (EM., Md., H.S.), the five identified measurement dimensions varied considerably in item loadings and arrangement on factors. Implications of the results were discussed in view of conceptualizing and operationally defining dimensions of school culture in view of contextually embedded differences among teachers at different school levels. Suggestions for using the RSCEQ in future research were also given.

**ACCOUNTS OF PLAY: A DESCRIPTIVE STUDY IN THE CHANGES EXHIBITED IN PLAY ACROSS THREE GENERATIONS**

Suzanne F. Redman and Patrick Kariuki, Milligan College

The purpose of this study was to determine the changes in childhood play across three generations. The study focused on three areas of play, including kinds of play, time of play, and the place of play. The research used a descriptive study design utilizing oral interviews and a written survey. The study sample consisted of a random selection of 20 subjects per five age groups for a total sample of 100. Responses to statements on childhood play were ranked using a Likert scale. Numerical values given to each response scored were graphed on point value for a comparison between the five age groups. Results of the data indicated some changes in the accounts of play in each targeted area. The degree of change appeared to be related to geographical location and family structure during childhood. This study implied a relationship between the changes in play to historical events and shifts in society pressure.

**4:00 p.m.-4:50 p.m. TECHNOLOGY**  
**(Extended to 5:05 p.m.) (Discussion Session)..... Salon C**  
**Session W#041**

**PRESIDER:**Ava Pugh, Northeast Louisiana University

**CHANGES IN STUDENT ATTITUDES REGARDING A WEB-BASED HEALTH PROFESSIONS COURSE**

Steven G. Lesh, J. Stephen Guffey, and Larry C. Rampp, Arkansas State University

Traditional students often enter learning situations with preconceived attitudes and motivations regarding the delivery of the academic content. Normative values that determine preconceived attitudes include time demands, previous academic experience, and significance of the course related to long-term career plans. Web-based course offerings are a new and different mode of delivery for classroom instruction and may create an atmosphere of anxiety and uncertainty. The researchers investigated the achievement and changes in attitudes for students enrolled in a web-based health-professions course.

Two different instruments were used to gather data: a pre- and posttest to measure learning (mastery of course content) and a pre- and postsurvey to measure change in student attitudes. Both were distributed to students enrolled in the web-based course.

A significant difference was identified regarding student attitudes based on type of delivery.



Student attitudes toward technology based instruction were significantly positively changed for those who experienced the web-based environment.

The authors concluded that students were less anxious regarding the environmental setting upon the completion of a web-based course. Learning related to the content of the web-based course was equivalent to that commonly seen in the traditional classroom environment. A supporting conclusion was the potential for cost effectiveness offered by web-based delivery.

### **ELECTRONIC VS. TRADITIONAL RESEARCH CLASSES**

Robert L. Kennedy, University of Arkansas at Little Rock

The purpose of the study was to compare electronic mail and more traditional "chalk and talk" approaches for teaching graduate introductory research classes. The electronic course was first offered in spring 1995 with the spring 1998 semester being the most recently included. There were 71 participants in the electronic classes and 32 in the traditional classes, with a majority of white females enrolled in graduate education programs.

Multiple-choice pretests and posttests were given, developed from standardized test preparation manuals available for purchase in academic bookstores.

An analysis of covariance (ANCOVA) was run using posttest scores as the response variable and pretest scores as the covariate. Since the ANCOVA technique involves features of both the analysis of variance and regression, assumptions for both were tested using the NCSS statistical program, version 6.0.21. The assumption of random selection has not been practical for most courses, but the two groups were demographically comparable. Normality and homoscedasticity across all groups were verified using the Omnibus Normality of Residuals and Modified-Levene Equal-Variance tests. Homogeneity of regression was observed in scatterplots of pretest scores versus posttest scores and their trend lines, by treatment and control groups. Therefore, the assumptions required for ANCOVA seemed to be reasonably well met.

The test indicated that the null hypothesis of no statistically significant difference between the traditional (adjusted mean of 12.85, n=32) and electronic (adjusted mean of 11.77, n=71) classes' scores could not be rejected at the 0.05 level [ $F(1,100)=2.29$ ,  $p=0.13$ ]. It was concluded, then, that offering the course through electronic mail did not appear to hinder the performance of the students to the extent measured by the multiple-choice tests, suggesting that the electronic course offering provided a flexible alternative for learning.

### **A LONGITUDINAL ASSESSMENT OF TECHNOLOGY WORKSHOPS FOR UNIVERSITY PROFESSORS**

Dorren R. Schmitt, University of New Orleans

This study examined the effect of three technology workshops on mathematics and science faculty. The intent was to find out: (1) had the faculty increased their use of technology and (2) what were the factors that aided or hindered the integration of technology.

Over the past three years, 132 professors attended technology workshops to aid them in the integration of technology into their classrooms. The workshops covered topics including the Internet in classrooms, graphics calculators as instructional tools, distance learning, creating web pages, real world data in undergraduate science classes, using mathematics as a tool for teaching and learning, etc.

Prior to each workshop and following the workshop, the participants filled out a survey pertaining to how they used technology in their classes. After the third workshop an additional questionnaire was sent out to determine what factors besides the technology workshop either helped or hindered the integration of technology into their classes.

The data from the yearly surveys were analyzed using parametric and nonparametric statistics. The questionnaire following the last survey was analyzed through holistic groupings to determine factors promoting or inhibiting change.

Data from the yearly surveys was collected and analyzed. All of the participants incorporated technology in at least some of their classes. All participants showed some increase, and most exhibited



statistically significant increase in the use of technology. It was also not surprising that the most change exhibited in each participant was in the area of technology they focused on in the individual workshop.

**4:00 p.m.-4:50 p.m. ADULT AND VOCATIONAL EDUCATION**  
**(Extended to 5:05) (Discussion Session)..... Salon D**  
**Session W#042**

**PRESIDER:**Carol A. Mullen, Auburn University

**A DELPHI STUDY OF THE DESIRED CHARACTERISTICS OF VIABLE  
AND SUSTAINABLE WORKERS IN 2015**

Brenda Pennington Dean, Hamblen County (TN) Schools,  
and Russell West, East Tennessee State University

The Delphi study ascertained the opinions and perceptions of industrial leaders in a 10-county area of middle eastern Tennessee to forecast characteristics of valuable workers in the year 2015. The following areas were studied as they related to the forecast within the area: (1) projected employment skill demands of business and industry, (2) initiatives required by business and industry to meet forecasted needs, and (3) initiatives required of education to meet the forecasted needs of industry and business.

The Delphi panel of 22 business and industry leaders was nominated by the county executive of the 10 counties, officials at Walters State Community College, and members of the Regional Private Industry Council and included 16 males and 6 females, of which 21 were Caucasian and one was African American. The following segments of industry were included in the panel: general manufacturing, metalworking, furniture production, healthcare, printing, automotive, textiles, chemical production, and a category described as other.

In the first iteration, panelists responded to a questionnaire consisting of 17 open-ended questions. These questions were related to the characteristics of valuable workers for the year 2015. The narrative responses in round one revealed emerging consensus, which was narrowed by the second round iteration. Opinions or perceptions that were mentioned five times formed the basis of the second round of the Delphi in which the panelists responded to 55 items measured on a Likert scale.

The results indicated a clear need for workers who possessed interpersonal and problem-solving skills, as opposed to purely technical expertise. The findings of the study suggested implications for better articulation between public school curricula and industrial needs.

**EFFECTS OF INVESTMENT IN EDUCATION AND TRAINING  
ON PERFORMANCE IN MANUFACTURING COMPANIES**

J. Fred Williams and Jacquelyn P. Robinson, Auburn University

Industrial managers do not have an effective way to relate education and training costs to employee performance. This study evaluated the relationship between company investment in the education and training of employees, and industrial performance. Data were gathered from manufacturing companies in 14 northeast Alabama and nine northwest Georgia counties. Companies were selected at random from industrial directories for the respective states and counties. A survey instrument was developed and mailed to top managers of the selected companies. Two hundred seventy-five questionnaires were mailed, 134 were returned, and 120 were complete and usable. Fourteen were either blank or incomplete and unusable.

The survey instrument was developed with the help of a focus group of 13 top level industrial managers of manufacturing companies selected from the same region as those that were the subject of the study. The instrument consisted of 65 questions designed to gather performance and corporate culture information covering the subject areas of: (1) investment in education and training, (2) productivity, (3) quality, and (4) health



and safety.

Data were analyzed using regression and analysis of variance (ANOVA). Performance data from productivity, quality and health and safety, identified as dependent variables, were regressed against the independent variables of investment data for education and training. A research hypothesis was posited: "Increases in company investment in employee education and training will be accompanied by corresponding increases in the level of performance in each area studied."

Analysis of the data appeared to support the research hypothesis. Several variables in the subject area of education and training seemed to predict performance in productivity, quality, and safety. Higher levels of investment in education and training in terms of money, time, methods, and techniques could be expected to result in higher levels of performance in productivity, quality, and safety.

**AN ASSESSMENT OF TECHNOLOGY CLASSROOM ENVIRONMENTS IN CHINESE UNIVERSITIES**

Jiexiu Li and Russell West, East Tennessee State University

The purpose of this study was to investigate the characteristics of graduate classroom environments as perceived by the graduate students and faculty in technology courses at Chinese universities. Relationships were examined between the different dimensions of the social environment of the graduate technology classrooms. Adult Classroom Environment Scale (ACES) was used to measure the actual and ideal classroom environments on seven dimensions.

The research was conducted during the fall semester 1998. Participants in this study included 317 graduate students and eight teachers in eight classes from six universities in Beijing, China. The results of data analysis showed that there were significant differences in graduate students' perceptions of the actual and ideal classroom environment. Perceptions of teachers and graduate students in each class differed in their views of the actual classroom environment. Students felt that courses were well-organized, clearly-delivered, and task focused. Students felt that they needed more influence in the classroom, and that instructors should focus on individual development. Teachers perceived Organization and Clarity and Teacher Support as more characteristic of their classrooms, but they did not see Student Influence and Personal Goal Attainment as important.

There were few significant differences on most of dimensions of the actual classroom environment, when contrasted according to age, major, and work experience. Males and females did, however, see Organization and Clarity, Personal Goal Attainment, Affiliation, and Involvement differently. These findings indicated that graduate technology classrooms in Chinese universities was still quite teacher-centered.

**4:00 p.m.-4:50 p.m. PARENT INVOLVEMENT**  
**(Extended to 5:05) (Discussion Session).....Salon E**  
**Session W#043**

**PRESIDER:**Fred Groves, Northeast Louisiana University

**THE PEABODY FAMILY INVOLVEMENT INITIATIVE: PREPARING PRESERVICE TEACHERS FOR FAMILY/SCHOOL COLLABORATION**

Laurie J. Katz, Middle Tennessee State University, and  
Jerold P. Bauch, Peabody College of Vanderbilt University

A study was conducted to explore the impact of preparing preservice teachers to involve families in their child's education. Four questions guided the study: (1) What are the attitudes about parent involvement activities of teacher education students and graduates after completing a parent involvement parent training program? (2) Which strategies and approaches did student teachers and classroom teachers think are important and feasible? (3) Which strategies and approaches did classroom teachers use in their schools? and (4) Were there differences in the parent involvement attitudes and practices between preservice teachers who completed the



program and those who had no specific training?

Three groups of preservice and inservice teachers completed surveys that addressed attitudes, feasibility, and preparation factors for nine parent/school involvement activities. The first group was preservice teachers who had completed a family-school involvement course. The second group had just completed their student teaching. The third group was certified teachers who had completed one to three years of classroom teaching. All three groups were asked similar questions and added inquiries about the actual involvement strategies used by the practicing teachers.

Initial findings showed that more teachers engaged in parent involvement activities that are traditionally part of many school policies and programs. Teachers found themselves more prepared to engage in parent/school activities if they had completed a parent involvement course as undergraduates. Teachers who took this course were also more likely to engage in nontraditional parent/school activities. Both groups of preservice teachers thought that all of the parent involvement activities were important. However, perceptions of their feasibility varied. Students considered themselves most prepared in the activities that had been emphasized in the course. In spite of this preparation program, both preservice and practicing teachers called for even more training in family/school involvement.

### **SCHOOL IMPROVEMENT THROUGH COMMUNITY DIALOGUE: THE FIRST COMMUNITY STUDY CIRCLES ON EDUCATION IN ARKANSAS AND OKLAHOMA**

Jo Sykes Chesser and Larry McNeal, University of Arkansas at Little Rock

Can community engagement that fosters dialogue between diverse individuals and groups result in school improvement and increased parental involvement in public schools? This study examined the Study Circles program on education that was conducted in Arkansas and Oklahoma in fall 1998. Study Circles are a community involvement strategy for collaborative problem solving. They are small, highly participatory groups led by trained facilitators using materials provided by the Study Circles Resource Center. Used for racial and criminal justice deliberation, this is the first time statewide organizations on education have been implemented.

Each partner of Calling the Roll: Study Circles for Better Schools had specific goals related to the needs of their state or organization, but they collaborated to develop and revise pre- and post-questionnaires. The questionnaires were to provide demographics and other participant information, evaluate the Study Circles program, and examine the impact of their efforts. Participants took the pre-questionnaire before the Study Circles began. After four two-hour sessions, the post-questionnaires were given.

Fourteen communities provided research data from 626 pre-questionnaires and 380 post-questionnaires. From these questionnaires 243 were pre-post matches. The Center for Research on Teaching and Learning at the University of Arkansas in Little Rock analyzed the questionnaires. The information received from these first efforts indicated a positive response to this type of group dialogue and collaboration. A larger percentage of parents with school age children was noted in the communities that were organized through the school superintendents.

Although the data implicated success in the program beginning, an impact survey was conducted in fall 1999 as a follow-up of the implementation and results of the group's action plans for their public schools. New communities are organizing Study Circles, and the research groups will continue to evaluate the results.

### **HOMESCHOOLING IN ALABAMA: PERSPECTIVES OF PUBLIC SCHOOL SUPERINTENDENTS AND HOMESCHOOLING PARENTS**

Anna T. Kozlowski, The University of Alabama

The purpose of the study was to describe homeschooling in Alabama from the perspectives of public school superintendents and homeschooling parents. The study addressed the extent, causes, and experiences of homeschooling and the relationship between homeschoolers and public schools. Homeschooling is a growing national trend. The increase is usually attributed to growing dissatisfaction with schools.

Alabama superintendents were surveyed using an instrument developed from the literature. The



response rate was 59%. The survey addressed the extent of the practice, parents' stated reasons, superintendents' concerns, and relationships between schools and homeschoolers. It concluded with an open-ended question on how superintendents should respond to parents who want to homeschool. Parents (n=12) were interviewed in person or by e-mail using a structured interview format. A cross-case analysis was performed on the qualitative data.

The incidence of homeschooling (1.5%) was slightly above the national average and appeared to be a growing trend. The commonly reported reasons were protection from negative social influences and teaching moral and values explicitly. Superintendents were concerned about parents' capabilities; curriculum quality; achievement; and social isolation. There was virtually no contact between schools and homeschoolers.

Homeschooling parents reported dissatisfaction with the academics and socialization of schools. They valued providing individual attention, promoting values, and fostering independence. Parents felt capable of providing appropriate instruction and socialization. Curricula varied from traditional and religious to unschooling models.

State laws may encourage officials to see homeschooling as a religious rather than educational issue. Superintendents are more likely to be familiar with homeschooling failures than successes. The parents' grievances were consistent with contemporary criticisms of the factory model of schooling. Homeschoolers were generally content with the absence of regulation in current laws; some opposed required enrollment in church schools.

**4:00 p.m.-4:50 p.m.**                    **AT-RISK STUDENTS**  
**(Extended to 5:05)**                    **(Symposium)..... Salon F**  
**Session W#044**

**ORGANIZER:**                    C. M. Achilles, Eastern Michigan University

**WHAT DOES THE FINDING OF A CLASS-SIZE EFFECT MEAN FOR  
PROFESSORS AND PRACTITIONERS?**

**Introduction**

C. M. Achilles, Eastern Michigan University

Interest in small classes (18:1) or so for early primary youngsters is becoming a policy issue at state and federal levels. Although substantive results have long been available on class size and student outcomes, there still seems to be much confusion about what the research really says.

**Summary of Key Class-size Reduction (CSR) Findings from Major CSR Studies**

C. M. Achilles, Eastern Michigan University

This paper summarized results obtained in well-designed CSR efforts (1975-99). Detailed comparative findings in terms of such variables as percent of gains that favored small vs large classes have been compiled for five current (1996-99) CSR efforts. Based on interpretation derived from research reports, the paper identified major problems in establishing CSR as a wide-spread policy (space, personnel, poor definitions, etc.), and offered case-study examples of how these problems were being overcome.

**The Necessity for Patience, Perseverance, and Presentation**

H. P. Bain, Retired STAR Principal Investigator, and Jayne Boyd-Zaharias, Director;  
B. DeWayne Fulton, Data Manager, HEROS, Inc.; and STAR Staff (1986-90)

By 1998 most STAR students who entered the experiment in 1985 (K) or 1986 (grade 1) had either graduated from high school or had left the STAR cohort (e.g., dropout, grade retention, mobility).



Painstaking tracking of students turned up an adequate long-range sample to allow researchers to compare the high school (and beyond) characteristics, achievements, and outcomes of students who began their schooling in STAR regular or small classes. The highly positive results favored small-class students in such areas as behavior, grades, enriched curricula, and post-high school outcomes.

The paper documented the concerted effort to get results into the hands of policy persons, including meetings with teacher associations, a press conference (April 1999) at the National Press Club, and lobbying efforts in Washington, DC.

#### **A New View: Reanalysis and Reinterpretation of the STAR Database**

Jeremy D. Finn, STAR Design and Analysis Consultant (1984-99),  
and Sue Gerber, State University of New York Buffalo

The original STAR analyses employed ANOVA and MANOVA models to answer the basic questions posed in the enabling legislation. Reanalyses in 1999 employing Hierarchical Linear Models (HLM) on a refined cohort-driven data set answered new questions, such as: How many years of small-class treatment provide specific outcomes? Results seriously question the STAR critics' interpretations that only a year or two of early small-class experience will provide the expanding, long-term benefits that lead to a trajectory of school success.

#### **What Does the Small-Class Effect Mean For Professors and Practitioners?**

In this paper the symposium's authors presented a research-based, "how to" manual for two specific groups of educators: higher education personnel and K-12 practitioners including teachers, administrators and school board members. The paper included normative statements (what should be done) for both groups, followed by action steps that were supported by (1) research outcomes and (2) examples of the applications of the results. The final section described areas of important policy considerations, examples of emerging theories that explain the class-size effects, and research needs.

Wednesday, November 17, 1999



**5:30 p.m. MSERA KEYNOTE ADDRESS.....Grand Ballroom North**

**Session W#045**

**PRESIDER:**Gerald Halpin, Auburn University, President, MSERA

**Introduction:** Edith A. Miller, Auburn University

**Speaker:** William A. Mehrens, Michigan State University

**Topic:** **Consequences of State Assessment Programs: What is the Evidence?**

**Welcome:** George Uhlig, Dean, College of Education, University of South Alabama

**6:30 p.m.-7:30 p.m. RECEPTION SPONSORED BY THE COLLEGE OF EDUCATION,  
Session W#046 UNIVERSITY OF SOUTH ALABAMA ..... Grand Ballroom Patio**