

Wednesday, November 4, 1998

7:30 a.m. - 8:45 a.m. **NEW MEMBER AND GRADUATE STUDENT
BREAKFAST** **Queen Ann Parlor**

9:00 a.m.-9:50 a.m. **RESEARCH IN THE SCHOOL**
(Training Session) **Bienville Room**

TRAINER: Kenneth T. Clawson, Eastern Kentucky University

USING ACTION RESEARCH TO INFORM AND IMPROVE INSTRUCTION

Kenneth T. Clawson and Beverly M. Klecker, Eastern Kentucky University

Action research in public-school and higher-education classroom settings is a process of systematically evaluating the consequences of educational decisions and adjusting practice to maximize effectiveness. The author conducted a training session using a Power Point presentation to compare and contrast action research with more traditional research paradigms, and to offer concrete guidelines for teachers/professors seeking to use this structured inquiry approach to inform and improve their teaching. The session included the following topics: (a) framing a research question, (b) developing the question, (c) planning observations/data collection (validity and reliability issues), (d) data analysis, (e) reporting results, and (d) using results to improve practice.

Handouts included a brief review of related literature on action research and materials that the participants could use in their own research projects. It was an interactive discussion/participation session. The discussion session was used to help participants identify areas of their teaching where action research might be used to improve practice.

9:00 a.m.-9:50 a.m. **DISPOSITIONAL MODES OF FUNCTIONING AND DOMAIN-
COMPREHENSIVE ACHIEVEMENT**
(Symposium) **Cathedral Salon**

ORGANIZER: Christie S. Howell, The University of Alabama

An Overview of Dispositional Modes of Functioning and Domain-Comprehensive Achievement

Asghar Iran-Nejad and Christie S. Howell, The University of Alabama

College courses tend to focus on specific topics. Such domain-specific topics are covered in textbook chapters or different class presentations by the course instructor. Developments in biofunctional cognition suggest that students' dispositional modes of functioning can influence their course experiences, learning, and performance. For instance, it should make a difference if students approach the course in a creative versus habitual, dynamic versus active, or constructive versus unconstructive mode of functioning. This symposium explored the relationship between these modes of functioning and domain-comprehensive versus domain-specific achievement.

Dispositional Modes of Functioning and Authentic Learning

William Derryberry, The University of Alabama

This paper investigated how dispositional modes of functioning related to students' domain-comprehensive perspectives on authentic learning in an undergraduate educational psychology course. Course instructors rated students with regard to their dispositional modes of functioning. Also rated were students' written work for the course using whole-theme standards of authentic learning. The findings were reported and discussed.

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Dispositional Modes of Functioning and the Development of Identity

Christopher Taylor, The University of Alabama

This paper explored how dispositional modes of functioning, as described in the biofunctional model, might relate to the development of identity as discussed in Marcia's Identity Status Model.

The Relationship Between Dispositional Modes of Self-Regulation and Experienced Affect

Mike Crowson, The University of Alabama

In this study, undergraduate educational psychology students were assessed in terms of their active and dynamic dispositions to self-regulate in class participation or coursework. Their level of self-reported affect related to the course was also assessed. This paper reported the results.

**Modes of Functioning, Reflective Thinking, and Achievement
in an Educational Psychology Course**

Christie S. Howell, The University of Alabama

The relationship between dispositional modes of functioning, reflective thinking, and achievement was explored. Course instructors rated students in an educational psychology course with regard to their modes of functioning dispositions and reflectiveness in thinking. The relationship between these ratings and achievement as measured by course grade was examined.

9:00 a.m.-9:50 a.m. EARLY CHILDHOOD EDUCATION
(Discussion Session) Gallier Salon

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

**THE PERCEPTIONS OF KINDERGARTEN TEACHERS AND HEAD START TEACHERS
ON HOW WELL PREPARED HEAD START STUDENTS ARE FOR KINDERGARTEN**

Deborah R. Lester, Milligan College

The purpose of this study was to investigate the perceptions of kindergarten teachers and Head Start teachers on how well Head Start students were prepared emotionally, socially, intellectually, and physically for kindergarten. The sample included 12 kindergarten teachers and 12 Head Start teachers in a county school system located in northeastern Tennessee. The teachers completed a survey written by the researcher using the Likert scale. The survey was administered at the beginning of the school year in order for the kindergarten teachers to observe their students who attended Head Start the year before. The data were then analyzed using a *t*-test for independent means. The data analysis showed a significant difference between the perceptions of kindergarten teachers and Head Start teachers on how well prepared Head Start students were emotionally, socially, intellectually, and physically for kindergarten. The Head Start teachers perceived their students as more prepared for kindergarten than did the kindergarten teachers in three areas of preparedness.

**MOTIVATION IN THE PRESCHOOL YEARS: CAN DIFFERENCES AND
MOTIVATIONAL PATTERNS BE IDENTIFIED IN YOUNG CHILDREN?**

Martha P. Carlton, The University of Alabama

Motivation is seen by educators as a key component in successful achievement in later school years. But often, the importance of motivation is overlooked when referring to the success of preschool and

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kindergarten children. Past studies have linked the development of helplessness with motivational patterns, but the link in the preschool years, when this pattern is forming, has not be strongly established. This study looked at the latest version of the Intrinsic Motivation Scale for Young Children and its use for differentiating motivational levels within this critical age range.

Forty-four children (25 male, 19 female) attending a public school kindergarten program participated in this study. The students' ages ranged from 5 years, 8 months to 6 years, 4 months. They were given the Intrinsic Motivation Scale for Young Children consisting of 20 items, which was administered in a group setting within three separate classrooms. Items were presented orally, with transparencies shown for clarification.

Items were designed around four motivational variables: persistence, choice of challenge, self-evaluation, and curiosity. Item to total correlations, factor analysis, and structural equation modeling were run with the resulting data. Six items were dropped as indicated by the item to total correlations, resulting in strong reliability coefficients. A three-factor structure emerged from the resulting 14-item scale. The identified factors were: self-evaluation, challenge/curiosity, and persistence. Factor analysis using structural equation modeling confirmed this three-factor structure.

The difficulty many children experience in academic learning situations may be because of motivational difficulties rather than lack of ability. The remediation of such difficulties could benefit all educational levels, with early identification being essential for the success of such remediation. The Intrinsic Motivation Scale for Young Children provided a means for motivational identification, with motivational patterns in terms of persistence, self-evaluation, and challenge/curiosity also being described.

**CHILDREN'S CONCEPTUALIZATION OF FORCE:
EXPERIMENTING AND PROBLEM SOLVING**

Indranie Dharmadasa, Auburn University

This study examined the constructivist instruction on children's conceptualization of force as compared to the instruction based on text and demonstrations by the teacher. Constructivist instruction involves children's actions on objects, their observations of the reaction of the objects, and their reflection on the action and reaction of the objects.

The sample consisted of 67 third-grade children selected from four classrooms in two elementary schools in a southeastern state. The experimental group interacted with the designed materials, focusing on activities of push, pull, hit, slope, swing, and balance, which are closely bound to the development of the concept of force. The control group learned the same subject matter designed by the class teacher. Both groups were pretested and posttested on a task instrument, which was piloted with 22 children, aged 8-9 years. Classroom observations were conducted to ensure that the teachers were implementing the treatment correctly as expected and were keeping up with the time schedule.

Data were analyzed using descriptive statistics and qualitative research procedures. The results showed that more than half of the children in the experimental group moved to a higher level in the posttest than did the control group. Out of 32 children in the control group, 11 children advanced by at least one level, and five children moved backward by at least one level. Out of 35 children in the experimental group, 24 children advanced by at least one level, and one child moved backward. The chi-square value of change in children's levels of conceptualization of force was 9.66 (df=2), which was statistically significant $p < .01$. Conceptualization of force emerged through patterns identified in the reasoning processes of the children related to the levels IA, IB, IIA, IIB and IIIA. Findings of the study suggested implications for classroom practice and teacher educators.

9:00 a.m.-9:50 a.m. RESEARCH IN THE SCHOOL
(Discussion Session) Ursulines Salon

PRESIDER: Dot Reed, Air University

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**AN ANALYSIS OF STUDENT ACHIEVEMENT USING DATA FROM THE ALABAMA STATE
REPORT CARD: WHY SOME SCHOOLS ARE SUCCESSFUL AND OTHERS ARE NOT**

Jerry G. Matthews, Margaret E. Ross, and William A. Spencer, Auburn University

Alabama newspapers have reported that school districts scoring in the caution and failure levels on the Stanford Achievement Test (SAT9) are in danger of intervention by the Alabama State Department of Education if no improvement is evident in subsequent years. The Alabama State Department of Education (SDE) assigned letter grades, e.g., A (superior) to F (failure), that reflect the student achievement rate of public schools on state and national standardized tests. The purpose of this study was to distinguish among mutually exclusive groups, for example, school districts with successful and unsuccessful SAT9 scores, based on Alabama report card variables such as socioeconomic status, financial factors, and demographic indicators. This study sought to develop a procedure for identifying variables that predicted successful student achievement on the SAT9.

Discriminant analysis was the analytical procedure employed to determine linear combinations of independent, or predictor, variables classifying school districts into either successful or unsuccessful SAT9 achievement levels. The findings indicated that some school districts in the lower socioeconomic levels and districts who spent fewer locally-generated dollars on instruction were successful on SAT9 achievement scores. Also, the discriminant analysis classified school districts differently across letter grade levels than the Alabama SDE method. These findings suggested the need for further studies on why some school districts with lower SES and financial resources scored higher on the SAT9 than other school districts with a similar demographic profile.

FACULTY STAGES OF CONCERN IN ADOPTING A NEW ASSESSMENT PROGRAM

Randall D. Parker, Louisiana Tech University

Louisiana's adoption of a new accountability system and the change from the California Achievement Test (CAT) to the use of the Iowa Test of Basic Skills (ITBS) to measure student achievement has led to concern from teachers and administrators about the effect this change may have on schools. Among the potential concerns of teachers are the: (1) effect on student achievement, (2) amount of time needed to make the change, and (3) proposed use of assessment data. In addition, change involves potential resistance, which can be attributed to: (1) fear of change, (2) fear of time commitment, and (3) fear of appearing incompetent. While faculty fears and concerns are affected by individual personalities and circumstances, it appears useful to measure faculty concerns regarding changes in the accountability program.

This study measured stages and levels of concern of 63 teachers in three north-central Louisiana districts regarding changes in the state accountability system. The Stages of Concern Questionnaire was administered prior to the change and again after the change was implemented. Of the seven stages of concern - (1) awareness, (2) informational, (3) personal, (4) management, (5) consequences, (6) collaboration, and (7) refocusing - the first four focus on the internal concerns of the individual, and the last three focus on external concerns relating to how the change may impact their associates and their students.

Two questions framed this research. At what stages were the faculty in their concerns about this change? What changes will occur in the faculty stages of concern over time? In addition, comparisons were made with regard to the grades taught and years of experience of the participants. Participants reported highest concern at the informational, personal, and management levels. Follow-up survey data (after the change) were reported as part of this presentation.

A SCHOOL ACCOUNTABILITY MODEL

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

The purpose of this paper was to describe the development and validation of a school accountability model. A common definition of "accountability" is that someone or some entity is held responsible for the performance of an organization. The accountability movement in this country has been driven primarily by

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government officials. Often, both the methods and criteria used to hold schools accountable are the result of legislation or school board action. It is our belief that a school accountability model should have three characteristics: (1) provides for the external judgment of a school and its programs based on known standards (preferably, world class), (2) provides information to school personnel and parents for improvement, and (3) provides an opportunity for the school to communicate its goals and achievements to parents and the public. At best, most accountability systems accomplish only the first characteristic.

The school accountability model proposed in this study was based on the assumption that schools represent dynamic systems: if one element is changed, it will impact all other elements. The primary elements of the model were educational inputs, processes, and outcomes. The model was driven by the school's goals or desired outcomes. The first task was identifying the indicators for these three elements.

The model was piloted in two of the three largest school systems in the state. The data were analyzed using structural equation modeling. Structural equation modeling provides for a test of the fit of the data to the preconceived model and produces probabilities for associations among elements. The model provided input to school administrators and teachers about the impact of proposed changes.

9:00 a.m.-9:50 a.m. TEACHING AND LEARNING
(Discussion Session) Beauregard Salon

PRESIDER Carolyn Reeves-Kazelskis, University of Southern Mississippi

**A QUALITATIVE ANALYSIS OF DIVERGENT PRODUCTION TASK
RESPONSES ACROSS THREE TIME-PRESS CONDITIONS**

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

Traditional assessments of creativity in the area of divergent production have employed standard time press conditions of three minutes for measures of fluency, flexibility, and originality. Recent studies have provided evidence that the traditional time press condition may impede both fluency and quality of responses. Other studies have shown differences in divergent production responses under a variety of creative prompting conditions.

The participants in the present study were 75 undergraduate students enrolled in educational psychology courses. There were 9 freshman, 16 sophomores, 26 juniors, and 24 seniors in the study of whom 63 were females and 12 were males. Ages ranged from 18 to 38 years with a mean of 21.67.

Participants were randomly assigned to one of six experimental groups. Each group was exposed to three vignettes that required participants to generate possible outcomes for situations involving human control of the weather, consequences of widespread organ transplants, and consequences for dealing with a large order of gloves in which the shipment contained two left-handed gloves in a pair. Each group was exposed to three time-press conditions, 2.5 minutes, 5.0 minutes, and 7.5 minutes, and three different prompt conditions (i.e., "Think of as many possible answers as you can," "Think of answers no one else will think of," and "Think of as many different answers as you can"). Each of the six groups was counterbalanced across the three vignette tasks in time-press requirements and creative prompt.

Responses were analyzed qualitatively across time-press conditions and across creative prompting conditions to examine process-oriented implications in regard to usefulness and uniqueness. Differences were found and described in terms of primacy and recency effects across conditions. Implications for future qualitative and quantitative analyses were discussed.

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EFFECT OF SUPPLEMENTARY ADJUNCT DISPLAYS ON THE COMPREHENSION OF A COURSE-RELATED TEXT PASSAGE

Thomas A. DeVaney, Southeastern Louisiana University

The purpose of this study was to determine the effect of adjunct displays on the comprehension and recall of a course-related text passage. A between-subjects design was used to compare academic performance. The subjects for this study consisted of approximately 35 students enrolled in an introductory educational research course.

The subjects were given a packet containing a chapter-length text passage on single-subject research. Approximately half of the packets contained additional adjunct displays in the form of matrix organizers. For these subjects, the text was also modified by inserting statements referring the reader to the adjunct display. The subjects were given a predetermined length of time to read the passage and study the displays. The following day, the subjects were allowed to review the passages and displays for 10 minutes. Following the review of the passages, subjects completed a multiple choice test designed to measure comprehension and recall.

The assessment included items containing information that was contained in the text and adjunct displays as well as items containing information that was contained in the text only. Subjects received a total score indicating the number of items answered correctly. Subjects also received a score for the number of correctly answered items from those containing information found in the text and adjunct display and a score for the number of correctly answered items from those containing information found in the text only. A *t*-test for independent means was used to compare the scores for the two groups. An alpha level of .05 was used to determine statistical significance for all tests.

10:00 a.m.-10:50 a.m. PUBLICATION (Training Session)..... Bienville Room

TRAINER: Larry G. Daniel, University of Southern Mississippi

PLAYING THE PUBLICATION GAME--KNOWING THE RULES AND DEVELOPING A STRATEGY: ADVICE FOR GRADUATE STUDENTS AND PROFESSORS OF EDUCATION

Larry G. Daniel, University of Southern Mississippi

Professionals in academe exist in a "publish or perish" environment. Many universities and colleges require active scholarship as an important criterion in the tenure and promotion review process. Despite the importance of scholarly writing, many new and emerging scholars are either afraid of the publication process or else are unsure how to go about getting published.

This training session focused on (a) familiarizing participants with the logistics of the publication process, (b) enhancing participants' understanding of professional writing, and (c) increasing participants' motivation to write and publish. Participants were exposed to information and activities related to these three foci. More particularly, the session included an overview of publication ethics, suggestions for developing quality research ideas, procedures for developing a quality manuscript, strategies for selecting the correct publication outlet, and advice for working with editors to enhance one's opportunity for being successful in the publication process. In addition, procedures for effectively dealing with varying publication decisions (i.e., acceptance, revise and resubmit, rejection) were discussed.

Attention was given to the topic of publication productivity, and participants had an opportunity to set their own publication goals during the session. Useful handouts and copies of several different example publications were distributed to participants. These handouts and sample publications served to summarize workshop topics and illustrated successful publication strategies. Ample time was allowed during the session for participants' questions and comments regarding various issues relative to the publication process.

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10:00 a.m.-10:50 a.m. AT-RISK STUDENTS (Symposium).....Cathedral Salon

ORGANIZER: Jo Anne Hamrick, The Hamrick Group & Associates

FACTORS RELATED TO THE IDENTIFICATION OF ADOLESCENTS AT RISK FOR SUICIDAL BEHAVIOR

Jo Anne Hamrick, The Hamrick Group & Associates, and Renitta L. Goldman and Gary Sapp, The University of Alabama at Birmingham

In the United States, suicide among adolescents remains a major health hazard, being the third leading cause of death, following vehicle crashes and homicide. This trend is alarming because the actual numbers of adolescent suicides are considered to be underestimated, particularly among African American youth.

Assessment of indicators of adolescent suicide requires an extensive knowledge of relevant risk factors and observable symptoms. Given their intensive, yet long-term contacts with adolescents, educators are in an advantageous position to identify significant signs and symptoms of adolescents at risk for suicide. Hence, they may play a critical role in the dynamics of adolescent suicide. Unfortunately, there is little extant research focusing on educators' ability to identify these at-risk adolescents.

This study examined the knowledge and skills of professional educators in Alabama in relation to assessing adolescents at-risk for suicide. Primary purposes were to assess educators' ability to identify an adolescent at risk for suicidal behavior when influenced by the adolescent's race, gender, and socioeconomic status, and to examine how educators' characteristics predicted their ability to identify at risk adolescents.

Subjects were 882 educators of adolescents randomly-selected from five school districts in Alabama. They were divided into two groups: special educators and school counselors, and regular educators. Data were gathered using a Student Behavior Survey (SBS) developed for this study. The SBS was mailed to 1500 teachers, and a return rate of 58.8% was obtained. Respondents were presented with one of eight vignettes describing a hypothetical adolescent. Using a Likert-type scale, respondents rated 35 signs and symptoms of suicidal behavior. Demographic information also was collected to identify subject characteristics.

The data were analyzed using SAS. Three scales were developed: (1) overt symptoms of suicide, (2) covert symptoms of suicide, and (3) total scale. The Kruskal-Wallis test was used to compare the three scale scores for significance across selected demographic variables of the subjects. To determine the degree to which subject characteristics predicted their ability to identify indicators of adolescent suicide, a multiple regression procedure using a backward elimination model was conducted.

The major outcomes of the study were: (1) the respondents' overall capability to identify indicators of adolescent suicide was poor, (2) there was little difference among school counselors and special educators and regular educators in their ability to identify indicators of adolescent suicide, (3) female educators were more skilled than male educators in identifying at-risk adolescents, (4) graduate training facilitated educators' ability to identify at-risk students, and (5) comparisons of males and females by race indicated that African American females were more effective than their male counterparts in identifying covert symptoms of at-risk adolescents.

The current study answered key questions but raised more: What makes women better at recognizing adolescents at risk for suicide? Do factors such as cultural expectations affect the results? Should women be trained differently than men? Should educators be trained to be better listeners and/or more approachable? Regardless, students present salient needs and educators are in a critical position to attempt meaningful intervention.

10:00 a.m.-10:50 a.m. COUNSELING (Discussion Session).....Gallier Salon

PRESIDER: Nola Christenberry, Arkansas State University

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A COMPARISON OF SUPERVISOR CONTACT WITH INDIVIDUALS WITH DISABILITIES AND SUPERVISOR RATINGS OF COUNSELOR TRAINEES WITH DISABILITIES

Amy L. Skinner and Craig S. Cashwell, Mississippi State University

In the literature, counselors with disabilities have often enjoyed positive competency ratings by both clients and counselors. They have been rated as having more empathy, genuineness, and positive regard than counselors who do not have disabilities. Also, the frequency of contact an individual has *with* people with disabilities has been correlated with positive attitudes *toward* people with disabilities in the literature. The more frequent the contact an individual has with people with disabilities, the more favorable attitudes are toward people with disabilities. However, no such research has been conducted on supervisor ratings of counselor trainees with disabilities. The purpose of this study was to examine the relationship of amount of supervisor contact with people with disabilities and their ratings of counseling trainees with disabilities.

One videotaped counseling vignette was shown to master's and doctoral counseling students at Mississippi State University. Participants were randomly assigned to one of two conditions: they either viewed a vignette with a trainee in a wheelchair or the same vignette with a different camera angle that showed the trainee not in a wheelchair. Participants completed a Counselor Rating Form - Short Form (CRF-S) to measure competency variables (i.e., expertness, attractiveness, and trustworthiness) and a demographics form to measure frequency of contact (i.e., daily, weekly, monthly, every three months, less often). Group ratings and frequency of contact reports were then compared.

Results indicated that the counselor trainee in the disability condition (i.e. in the wheelchair) was rated more favorably in areas of competency as measured by the CRF-S than the counselor in the non-disabled condition. Results also indicated that the more frequent the contact participants had with individuals with disabilities (e. g., daily and weekly), the more positively they rated the trainee in the disability condition.

THE IMPACT OF RELIGIOUS PROSCRIPTIVENESS ON THE ALCOHOL USE OF HIGH SCHOOL STUDENTS

Hae-Seong Park and Lauri M. Ashton, University of New Orleans

The purpose of this study was to determine the relationship between religious proscriptiveness and the alcohol use of high school students. A sample of high school seniors (n=7,692) was drawn using the data of the NELS 88: second follow-up study. One-way ANOVA and post hoc tests using the Scheffe' test were employed to determine the impact of religious proscriptiveness on alcohol use.

Religious proscriptiveness was measured through nine denominations: Baptist, Methodist, Lutheran, Presbyterian, Episcopal, Pentecostal, Roman Catholic, Mormon, and Jewish. A significant ($p<.0001$) difference of religious proscriptiveness was found on the alcohol use of high school students. Specifically, Mormon, Pentecostal, and Baptist (i.e., a proscriptive group) reported lower rates of alcohol use, while Lutheran, Episcopal, Jewish, and Roman Catholic (i.e., a nonproscriptive group) showed higher rates of alcohol use.

In addition, the impacts of gender and ethnicity on alcohol use were analyzed using three-way ANOVA. Significant ($p<.0001$) difference emerged showing girls and African Americans as less likely to use alcohol. Suggestions for future research were offered.

**10:00 a.m.-10:50 a.m. MATHEMATICS EDUCATION
(Discussion Session) Pontalba Salon**

PRESIDER: Sonya Carr, Southeastern Louisiana University

HOW MUCH DO ACADEMIC SELF-ESTEEM AND MATH ANXIETY INFLUENCE MATHEMATICS PERFORMANCE?

Gary L. Cates, Katrina N. Rhymer, Stephanie L. Smith, and
Christopher H. Skinner, Mississippi State University

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Educators have become increasingly aware of the impact of student motivation, anxiety, and self-esteem on academic performance. These factors have influenced the way students approach new classes and assignments in the classroom. Students have preconceived ideas regarding their abilities that ultimately affect their performance. The purpose of this research was to empirically investigate college students' mathematics anxiety and academic self-esteem and analyze the relationship of these factors to actual mathematics performance. It was hypothesized that students who struggle with mathematics (i.e., not fluent) have high mathematics anxiety and low academic self-esteem, whereas students who are fluent in mathematics have low mathematics anxiety and high academic self-esteem.

College students were asked to complete a demographic questionnaire, the Coopersmith Self-Esteem Inventory, the Fennema-Sherman Mathematics Anxiety Scale, and mathematics sheets. A correlation was conducted to identify whether this inverse relationship existed in fluency between self-esteem and mathematics anxiety. Results and discussion focused on the implications for educational psychologists.

**COMPARISON OF STUDENT ATTITUDE IN MATHEMATICS AND SCIENCE
IN JAPAN AND THE U.S.A. TIMSS STUDY**

Ming Lei and Judith A. Burry-Stock,
The University of Alabama

Achievement results from the Third International Mathematics and Science Study (TIMSS) indicated that Japan did better in both mathematics and science than the U.S. across the elementary, middle school, and high school levels. Since Japan consistently outscores the U.S., many questions arise concerning why Japan does better than the US in mathematics and science. Since a positive attitude assists in promoting achievement, attitudinal differences may provide a clue as to the answer. Attitudinal items from the TIMSS middle school study (population 2) were pooled together into one instrument to investigate similarities and differences in attitudes between the two countries. The total sample size was 20,851.

Separate factor analyses were done using principal factor solution with varimax rotation. A five-factor solution was found for the U.S., and a four-factor solution was found for Japan. Similar patterns were noted with differences lying in factor structures noting that Japanese students felt that it is important to succeed in school, whereas U.S. students feel that success is important in school. Both countries feel that success is a function of luck and ability. U.S. students separate math and science attitudes, whereas Japanese students combine their attitudes. Japanese students have a separate factor where the enjoyment of math and science is a separate dimension.

The U.S. reform movement, with an emphasis on constructivism, captures many of these aspects; however, they have not been stated as the results of attitudinal data analysis. It appears that we in the U.S. are on the right track. It would be advantageous if we could be more willing to work harder, be more internally motivated, and be more "we" oriented. These points might assist us in teaching science and math for all Americans.

**A TRADITIONALLY TAUGHT HIGH SCHOOL PRECALCULUS CLASS COMPARED TO CEEB
PACESETTER MATHEMATICS: PRECALCULUS THROUGH MODELING**

Causandra O. Bradley and Ernest A. Rakow, The University of Memphis

This study compared attitudes and achievement of students in a traditionally taught precalculus class to that of similar students in a class taught using the CEEB Pacesetter Mathematics: Precalculus Through Modeling. The NCTM (1993) Curriculum and Evaluation Standards for School Mathematics recommend that technology be integrated into the curriculum and that there be an increased emphasis on application. The CEEB Pacesetter Mathematics reform is an example of implementing these standards into the precalculus curriculum.

All eleventh- and twelfth-grade students enrolled in precalculus in an urban high school were the subjects for this research. Students were initially assigned via a computer registration program to two sections of a

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precalculus class with the counselor making final adjustment to resolve schedule conflicts. Complete data were available on 15 students in each class.

The Mathematics Classroom Learning Environment Survey was used to measure attitudes regarding mathematics during the first and last weeks of the school year. Prior mathematics ability was measured by a 30-item, teacher-constructed test of concepts from Algebra I, Algebra II, and Geometry. The outcome achievement measure was a 70-item final examination constructed jointly by the teachers of these two sections of precalculus.

Cronbach's alphas for pre-measures and post-measures ranged from .51 for the achievement pretest to .90 for the attitude posttest. A multivariate analysis of covariance was used to compare the scores on the post-measures while controlling for the pre-measures. There were no statistically significant differences between the means on either post-measure. The effect size was .15 for post-achievement, favoring students in the traditional class. The effect size was .96 for the post-attitudes, favoring students in the CEEB Pacesetter class. The difference in post- attitudes was explainable by differences in pre-attitudes.

10:00 a.m.-10:50 a.m. STATISTICAL METHOD (Discussion Session) Ursulines Salon

PRESIDER: Dot Reed, Air University

UNDERSTANDING INTERACTION EFFECTS AND TYPE IV ERRORS

Jeffrey L. Dodds, Texas A&M University

In 1957, Lee J. Cronbach, the developer of Cronbach's alpha, the generalizability coefficient, and other important statistics, presented his American Psychological Association presidential address. In that address, Cronbach argued that too few researchers were addressing the important question, "Does a given educational or psychological intervention work best for everybody, and, if not, what interventions work best for which types of people?" Cronbach labeled such inquiries aptitude-treatment interaction (or ATI) studies.

In the ensuing years, ATI designs have been employed with some frequency because most researchers have presumed that few educational interventions are ideal for everyone. Thus, the interpretation of interaction effects is important in many research studies. Yet, many researchers do not fully understand what interaction effects are.

For example, all ANOVA effects in a balanced design are uncorrelated. This means that knowledge of main effects does not typically provide any information regarding the magnitudes of interaction effects, since the effects are uncorrelated in balanced designs.

As another example, because the means for interactions involve fewer persons per mean, power to detect interaction effects is typically smallest for the highest-order interaction in a given design. This phenomenon has been formalized by some methodologists as the Type IV error--the failure to detect statistical significance for interaction null hypotheses that really should be rejected.

This paper reviewed the basics of understanding the elusive but important concept of the interaction effect. Small heuristic data sets were employed to make the discussion more concrete.

THE DEVELOPMENT OF STATISTICS

Gail Coblick, and Gerald Halpin and Glennelle Halpin,
Auburn University

The study reported on the development of statistics from the time of Aristotle to the twentieth century, emphasizing the development of statistical concepts of alpha, beta, power, effect size, sample size, and sampling variability.

Aristotle was the first known philosopher to write about chance occurrences. Throughout the centuries scientists and mathematicians expanded on the early philosophers' discussions of chance occurrences resulting in methods of statistical inferences used today by researchers in a variety of disciplines. Some of those making significant contributions to the development of statistical inference included: Nicholas Bernoulli's theorem on the Law of Large Numbers, Aldolphe Quetelet's work on the applications of the normal curve, Charles

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Darwin's theory of evolution, Karl Pearson's development of the product moment correlation and the chi-square test, William Gosset's development of the *t*-test, and Ronald Fisher's work on the analysis of variance. Around 1940 researchers in a variety of disciplines eager to provide mathematical proof for their theories quickly adapted to methods of statistical inference developed from a combination of statistical inference concepts popularized at the time by mathematical statisticians, textbook writers, and researchers.

The study reported on the interplay of events that has provided us with methods of statistical inference popularized in the twentieth century and current issues relating to concepts of alpha, beta, power, effect size, sample size, and sampling variability.

**THE TUKEY HONESTLY SIGNIFICANT DIFFERENCE PROCEDURE
AND ITS CONTROL OF THE TYPE I ERROR-RATE**

J. Jackson Barnette, University of Iowa, and James E. McLean,
The University of Alabama at Birmingham

Tukey's HSD is probably the most recommended and used procedure for controlling Type I error-rate when making multiple pairwise comparisons as follow-up to a significant omnibus *F* test. The purpose of this study was to compare observed Type I errors with nominal alphas of .01, .05, and .10 for various sample sizes and numbers of groups.

Monte Carlo methods were used to generate replications expected to provide .95 confidence intervals of +/- .001 around the nominal alphas of .10, .05, and .01 for 42 combinations of *n* (5, 10, 15, 20, 30, 60, and 100) and numbers of groups (3, 4, 5, 6, 8, and 10). Means and standard deviations of observed Type I error-rates and percentages of observed Type I errors falling below, within, and above the .95 CI's were determined for total number of Type I errors.

The results indicated that HSD is conservative relative to finding at least one Type I error per experiment across all alpha levels, sample sizes, and number of groups. However when total number of Type I errors is of interest, HSD was liberal at alpha of .10 and .05, but was very conservative when alpha was .01. The mean number of Type I errors when alpha was .10 was .12795 and in 100% of the sample size/number of groups configurations the observed Type I error-rate was above the .95 CI. At alpha of .05, the mean number of Type I errors per experiment was .05531 with 97.6% of the sample size/number of groups observed Type I errors above the .95 CI and only 2.4% within the .95 CI. When alpha was .01, the mean number of Type I errors per experiment was .00877 with 57.1% of the observed Type I errors below the .95 CI and 42.9% within the .95 CI.

10:00 a.m.-10:50 a.m. TEACHER EDUCATION (Discussion Session)Beauregard Salon

PRESIDER:Judith A. Burry-Stock, The University of Alabama

**ESTABLISHING RESEARCH-BASED KNOWLEDGE IN TEACHER
EDUCATION THROUGH PROGRAM EVALUATION**

Kaye Pepper, Louisiana Tech University

Limited research-based knowledge exists on teacher education that emphasizes the most effective approaches of training teacher candidates. Teacher education program evaluations could provide excellent opportunities to refine the research-based knowledge on the most effective methods of preparing teachers. The evaluation of the Senior Block Field Experience Program (Block) at Mississippi State University was conducted in such a manner as to further the research-based knowledge in teacher education.

The evaluation of the Block was a descriptive study based on both naturalistic inquiry and a goal-oriented approach. The theoretical model used was based on Stake's Countenance Model of Educational Evaluation. NCATE Standards were used as guidelines. Data were collected from seven groups that directly or indirectly participated in the Block program. Information was collected through interviews with administrators and

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previous Block faculty as well. Archival documents also served as data sources. Open-ended question results and interview transcripts were analyzed for emerging themes. Results on the Likert-scale items from the questionnaire and ratings on various assessment instruments were totaled and percentages of responses calculated for each item.

Participants agreed that the Block program met some standards; however, they also agreed that some standards were not met. Strengths of the program were determined by those standards that were met and weaknesses by those standards not met. Recommendations were developed for the Administration, as well as the Block Director and faculty, based on weaknesses found.

This evaluation was carried out in the manner suggested in the literature to assist in the development of research-based knowledge in teacher education. This research-based knowledge provided empirical evidence related to the most effective ways to structure programs in certain situations, with certain populations, and under certain conditions. It provided program developers with important information that they can relate to their own program in order to make well-informed decisions.

A DECADE OF TEACHER INTERNS: WHERE ARE THEY NOW?

Judith A. Boser, The University of Tennessee, Knoxville

The primary purpose of this study was to determine the extent to which individuals who had completed the fifth-year teacher internship program at The University of Tennessee, Knoxville over the first 10 years of its implementation were employed as teachers. The internship program began in 1985-86 with an externally-funded program for selected individuals who were already professionals in other areas but wished to teach. In 1988-89, three individuals who were not part of the funded program were the first to complete internships as part of their regular teacher preparation program. Currently, student teaching is part of only two program areas; all others have adopted the fifth-year internship program.

A mail survey was conducted in an attempt to contact all 1102 individuals who had completed year-long teaching internships at UTK from 1985-86 through 1994-95. An explanatory letter was accompanied by a stamped and addressed reply postcard. Information requested included current address, occupation, employer, number of years teaching experience, and, if not teaching, whether they planned to return to teaching. Because of the size of the population, it had been determined that there would be only one mailing. Those who responded were given the opportunity to obtain a summary of the results by sending a self-addressed, stamped return envelope or providing an e-mail address. Also, they were given the option of not being included in the summary if they so requested.

Of the 1102 who had completed internships, mail was returned as undeliverable for 232, leaving 870 potential respondents. There was a return rate of 53%. Analyses consisted of descriptive statistics for the total group of respondents and for subpopulations by year of internship and by group (funded versus non-funded). The major finding was that most respondents were teaching.

A STUDY OF TEACHER INTERNS' CHANGING PERCEPTIONS DURING INTERNSHIPS

Dana Lynn Key, The University of Alabama

This study described the changing perceptions of two English language arts teacher interns in their five-month internship. The study was intended to emphasize both the emic issues (those of the participants) and the etic (those of the inquirer) concerning teaching, best practice, and the meaning of the experiences of the internship.

The interns were the participants in a phenomenological qualitative study. The researcher collected data from focus groups, structured and unstructured interviews, reflective journals, field notes, documents, and supervisory evaluations. The interviews were taped, transcribed, and collapsed into themes for analyzing. As is customary in qualitative research, the researcher was the instrument of the study in interpretation, but there were numerous validity and reliability controls such as member checks, triangulation, and peer debriefing. The researcher was a participant/observer and served as the university supervisor during the internship.

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The nature of qualitative research being very personal was important to this educational study because it was based on the humanistic value and truth of each participant's experience. The huge amounts of data collected and analyzed pointed to underlying themes that greatly affected the participants and their perceptions of teaching. Four major themes emerged from the study as being instrumental to the successful completion of the internship and greatly affecting the teaching methodologies and perceptions of the participants: (1) theory into practice, (2) students, (3) cooperating teachers, and (4) school atmosphere.

While the study did not have implications for every college of education or university, it revealed insight into the internship experience; therefore, it would be of interest to and would benefit teacher educators and faculty who are involved in field experiences. In addition, it possibly could be helpful to cooperating teachers and interns before and during the internship.

10:00 a.m.-10:50 a.m. TESTS (Discussion Session)..... Cabildo Salon

PRESIDER: Randall D. Parker, Louisiana Tech University

REVIEW AND CRITIQUE OF THE CHILDREN'S APPERCEPTION TEST

Charla P. Lewis, Texas A&M University

The Children's Apperception Test (CAT) is an oral response, projective test that is used by school psychologists and counselors with children ages 3 to 10 years. Based in psychoanalytic theory, the 10 pictures intend to elicit responses from the child about her/his personality, problems of development, coping mechanisms, and interactions with the environment. The CAT is a descendant of the Thematic Apperception Test (TAT) and the 10 picture plates depict animals in various situations. The purpose of the present position paper was to review the literature regarding this educationally important tool, and to formulate a critique of the measure and some of its uses.

The test is individually administered, and the 10 pictures serve as test items. The test is scored using various scoring templates to evaluate diverse personality/educational dynamics.

The CAT has been controversial from its beginning for several reasons. First and foremost, it is a projective measure, and the reliability and validity of scores on these types of measures are sometimes attenuated by the measurement format. The CAT, in particular, has no real norms that anchors its interpretations of perceptions and behaviors. Next, the CAT uses animals to provoke stories from children about their lives and attitudes. This is a real concern regarding test validity. The literature review revealed no definitive evidence proving animals vs. people in test pictures to be superior in evoking stories from children. However, empirical studies with children from ages 3 to 7 have shown greater success and richer responses with the original version of the CAT. The literature also indicated that children ages 7 to 10 and those with higher IQs seemed to do better with the CAT-H, the human forms version of the CAT.

REVIEW AND CRITIQUE OF THE DAS-NAGLIERI COGNITIVE ASSESSMENT SYSTEM

Brigitte N. Frederick, Texas A&M University

The Das-Naglieri Cognitive Assessment System (CAS) is a new, norm-referenced approach to measuring intelligence in individuals aged 5 to 17. The CAS is based on the PASS theory of intelligence proposed by Soviet neuropsychologist A.R. Luria. The PASS theory of intelligence has four main components: planning, attention, simultaneous processing, and successive processing. The PASS theory postulates that the brain's cognitive processes can be divided into three units, all of which function together as a system. The first unit is associated with the upper brain stem and the limbic system and is used for attention tasks. The second system, associated with the posterior parts of the brain hemispheres, is used for simultaneous and successive processing and encoding. The third part of the functional system is responsible for planning processes and is associated with the anterior portion of the brain. The CAS is administered individually as either a Basic Battery, which incorporates eight subtests, or as a Standard Battery, which utilizes 12 subtests.

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On its face the CAS appears to have considerable utility for use in education. The purpose of this paper was to review the literature on which the measure is based, and to critique the apparent strengths and weaknesses of the measure with a view toward evaluating the measure's usefulness.

It appears that the test offers a worthwhile alternative to traditional intelligence tests. Extensive reliability and validity studies have shown that the CAS is psychometrically very strong. The focus on linking assessment to intervention in the formulation of the CAS is a valuable component of the test, going above and beyond traditional intelligence tests. Also, the special attention that was given to exceptional populations may make this test an invaluable tool for use in the schools.

**RELATIONSHIPS AMONG SCORES ON THE GRADUATE RECORD EXAMINATIONS,
MILLER ANALOGIES TEST, NATIONAL TEACHER EXAMINATIONS,
ADVANCED LEVEL OF THE OTIS-LENNON MENTAL ABILITY
TEST, AGE, AND GENDER**

Charles W. Davidson, University of Southern Mississippi

Standards for admitting students to graduate programs is a perennial problem for university faculty and administrators. Frequently, persons are conditionally admitted to a master's or doctoral program, receive high grades in courses for below average work, and eventually graduate with deficiencies in both knowledge and ability. This situation is not unavoidable. If the decision makers were more aware of persons' standings within the general population in dealing with abstract manipulation of the verbal, numerical, and figural symbol systems of our culture, they may be better able to decide on admissions policies.

The purpose of this study was to determine the relationships among the following scores: GRE verbal, GRE quantitative, NTE General Knowledge, NTE Professional Knowledge, NTE Communicative Skills, MAT and Otis-Lennon Mental Ability Test, and to develop prediction equations that would allow conversions across tests.

The Otis-Lennon Mental Ability Test (OLMAT) was administered to approximately 100 master's degree students in four classes during the spring and summer of 1998. The subjects were given a small number of bonus points in the course for participating in the study. The subjects obtained their scores from their records on the other instruments that they had taken and reported them on the answer sheets of the OLMAT.

Significant and substantial relationships were found between GRE scores and NTE scores, between GRE scores and scores on the MAT. Lower correlations were found between GRE/MAT scores and scores on the OLMAT. Prediction equations were developed for OLMAT scores in percentile ranks.

The ability to relate scores on various admissions tests to one's likely percentile rank in academic potential within the general population could be a valuable tool for those entrusted with admissions decisions.

11:00 a.m.-11:50 a.m. EDUCATION POLICY (Training Session)..... Bienville Room

PRESIDER: Debbie McDonald, Eastern Kentucky University

KENTUCKY CONSOLIDATED PLANNING: A FOCUS ON RESULTS

Debbie McDonald, Kentucky Department of Education, and
Kenneth T. Clawson, Eastern Kentucky University

Researchers often collect data about schools and districts, but are researchers aware of how districts and schools use data to plan? Kentucky Department of Education personnel, local educators, business partners, parents, and others dedicated to improving education in Kentucky collaboratively developed a systemic data-driven, research-based process that will focus all district/school resources on student learning. After a careful analysis of all appropriate data, a limited number of high priority goals are selected to become school-wide, learning-centered initiatives. All federal and state resources--along with human resources--are integrated in a manner that allows a more strategic financial approach. Discussion or written peer reviews are available as an option to provide qualitative feedback for districts/schools.

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This training session presented perception data that established why this process has been perceived to be a "model which could be used by other states." A comparative analysis was presented to illustrate what statewide and regional priorities were identified by districts. Kentucky educators believe this process will shift the measurement of success to student results, not school processes. A district-wide focus on results, with all partners committed to a common goal, will certainly improve student learning.

**11:00 a.m.-11:50 a.m. BRAIN RESEARCH AND EDUCATION
(Symposium) Cathedral Salon**

ORGANIZER: Asghar Iran-Nejad, The University of Alabama

DISCUSSANT: Jenefer Husman, The University of Alabama

THE BRAIN AND EDUCATION CONTROVERSY

An Overview of Formative Postnatal Development

Asghar Iran-Nejad, The University of Alabama

Brain-based educational research has a relatively long history. However, in recent years, there has been a widespread surge of interest among educators, politicians, educational task forces, funding agencies, and popular media regarding the implications of neuroscience for educational practice. In a November 1997 article, John Bruer, the president of James S. McDonnell Foundation, questioned the wisdom behind the brain and education alliance. The papers in the symposium discussed the two sides of the controversy surrounding this important educational development.

What is Critical About Formative Postnatal Development?

Asghar Iran-Nejad, The University of Alabama

Education is sometimes viewed conservatively as the direct instruction of culturally-transmitted knowledge. Reform-oriented educators, on the other hand, maintain that education must do much more. This paper discussed how recent developments in brain research have little to offer conservative education and a great deal to offer reform-oriented education.

Beyond the Caution Sign on the Causeway

Beverly Wallace, The University of Alabama

Are educational policy makers, researchers, and teachers making unfounded claims based on simplistic understanding or misunderstanding of neuroscience research findings? Do educators need the guidance from cognitive science to be able to apply brain research to education? This paper discussed these and similar questions in order to identify ways that educators could use neuroscientific research to become shareholders in the badly needed reform of public education.

Music as a Vehicle for the Enhancement of Cognitive Neural Development

Wende Anderson, The University of Alabama

Current research in music has uncovered links between music and brain functioning. This paper described these findings and suggested that brain research in the area of music should be used as a model for future research and developments in all fields with potential links to education.

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Reciprocal Interaction and the Brain-Education Dilemma

Mike Crowson, The University of Alabama

This paper argued that the fields of education and neuroscience have much to offer one another. Specifically, it was argued that educators benefit from neuroscience research to better understand normal and abnormal behavior, child development, and the creation of innovative paradigms of learning and instruction. In addition, it was proposed that brain researchers might be able to draw from education toward a better understanding of brain functioning.

**11:00 a.m.-11:50 a.m. EARLY CHILDHOOD EDUCATION
(Discussion Session)Gallier Salon**

PRESIDER: Deborah L. Adler, University of Central Arkansas

AUTHENTIC LEARNING AND TEACHING IN THE INFANT CARE CLASSROOM

Christie S. Howell and Grace Long, The University of Alabama

As we approach a new century in the United States, the schooling of our children is a critical issue that must be addressed. Children today are entering formal school situations at a younger age each year. Consequently, much authentic learning and several opportunities for natural learning activities typically experienced in the home environment during the preschool years is being replaced by strict contextual curriculum and teacher planning in day care centers. This trend in our educational system has many early childhood experts watchful. Are we moving too quickly from the natural, authentic early learning experiences to a much more nonauthentic approach in the day care during our children's early years? Many children will experience outside care as soon as six weeks. Can we train our early childhood teachers to approach each day as mothers and other family members did in the not too recent past when children were an integral part of family activities and family life? Can we reverse the trend moving us toward a day full of objectives to one full of learning experiences?

In this paper we considered the infant classroom in a day care setting. Day care teachers can be trained more in the direction of authentic teaching and learning and steered away from the tendency to try to teach specific abilities to infants. We discussed several methods of teaching and learning and how a natural environment could be beneficial to the teacher as well as the children.

MODELING OF PROSOCIAL BEHAVIOR BY KINDERGARTEN TEACHERS

Sharon W. Hutchinson and Mary Cronin, University of New Orleans

Exposure to violent acts often occurs early in the lives of many American children. These acts occur in their communities, homes, and schools. Though early childhood educators cannot completely resolve the violence within American society, they can model those behaviors that promote positive social interactions for themselves and their students. As such, this field experience explored whether kindergarten teachers modeled prosocial behaviors, and if their students generated the modeled behaviors.

Two schools in a major metropolitan city were selected based on their geographical locations. The schools, locations were as follows: (1) School A, in an affluent area of the city, and (2) school B, in a lower socioeconomic area of the city. Identification of teacher participants occurred by word-of-mouth and with the schools' principals' approval. Three teachers, all of whom had more than eight years of teaching experience, participated in the field experience.

Observations for two of the teachers occurred for two consecutive days. The third teacher's observation was only one day (she was not available for the second observational day). Each observation occurred over a three-hour duration during morning instructional time. The Social Skills Observation Sheet was used to record the teachers' use of prosocial behavior and inductive discipline. Classroom environments were also assessed to determine opportunities for the students to generate prosocial behaviors. Area demographics were obtained from the city's 1991 Census Tract Reports. Findings from this field experience provided further evidence that modeling and teaching strategies were effective means of promoting prosocial skills during early childhood.

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A NATIONAL SURVEY ON FAMILY INVOLVEMENT IN EARLY INTERVENTION SERVICES PROVIDED BY PHYSICAL THERAPISTS

Janet D. Filer, University of Central Arkansas

This study examined the perceptions of physical therapists to determine the degree to which they were family-centered in the intervention they provided for children with disabilities.

Surveys were mailed to 1000 physical therapists who were members of the American Physical Therapy Association Pediatric Section. Of the 622 surveys that were returned, 397 were completed by physical therapists who treated children between the ages of 0 to 3 years. The survey consisted of 25 questions (with several sub-parts) divided into four sections. Part One requested information about the therapists' background (e.g., educational preparation). Part Two dealt with program characteristics (e.g., type of program, diagnoses of clients). Part Three requested information about determining goals for intervention and the role that families played during and after intervention sessions. Part Four asked the therapists to rate the importance of treatment objectives based on frequency of use and their overall effectiveness in achieving the objectives. This last part contained both family-focused and child-focused items. A Likert-type scale was used to quantify responses.

Physical therapists in this study generally involved families in activities that could be considered traditional therapy practices, such as having families present during sessions, teaching others to use therapeutic strategies, and giving home programs to families. They involved families less frequently in activities that were family-focused and less traditional, such as evaluating the child in the context of the family situation. This was further documented by the low reported rate of inclusion of family services in Individual Family Service Plans. Therapists selected lack of time and personnel as the most significant barriers to the development of therapy services that involve the family.

Findings from this study supported the national belief that shortages of physical therapists have had an effect on the availability of services and the quality of services to certain population.

**11:00 a.m.-11:50 a.m. MINORITY ISSUES AND DIVERSITY
(Discussion Session)Pontalba Salon**

PRESIDER: Hae-Seong Park, University of New Orleans

MULTICULTURAL STUDENTS' PERSPECTIVES OF AMERICAN COLLEGES AND UNIVERSITIES

Emma T. Pitts, Southern University

The study involved first-, second- and third-year college students who attended a four-year, predominantly African American university in the state of Louisiana and spoke English as a second language.

Information was sought about students' prior knowledge of American colleges and universities, treatment in the classrooms, and comparisons of non-American colleges and universities. A 27-item questionnaire written in English was randomly distributed to 75 students. Thirty of the students were in a Freshman Seminar class. The remaining 45 were polled throughout the university. Each item consisted of a direct question with three options and sometimes four when additional comments were needed. Participants were interviewed ten minutes prior to completion of the questionnaire to determine the following: fluency of English language, nationality, college status, length of time in the United States, place of birth, and number of American colleges and universities attended. The subjects involved in the study were Hispanics and Asian Americans. A compilation of the responses on each item yielded the percentages of participants for each of the three or four options.

The results of this study indicated that the majority of the students were satisfied with American universities and felt that they were receiving equal treatment in the classrooms. The implications were that teachers and American students needed to become more sensitive, knowledgeable, and appreciative of the various international cultures.

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**IMPROVING THE ACADEMIC PERFORMANCE OF HISPANIC
YOUTH: A COMMUNITY EDUCATION MODEL**

Gary G. Aspiazu, Jefferson Parish (LA) Public Schools
and University of New Orleans, and Scott
C. Bauer, University of New Orleans

The purpose of this study was to describe and analyze the creation of the Oakwood Family Education Center, a community-based education center that seeks to address the educational needs of Hispanic youth. The creation of the center was a collaborative effort among teachers, parents, and business leaders, who selected the principles of liberation theology as a culturally appropriate change strategy for a primarily Central American Hispanic community. This qualitative study investigated the perceptions of 21 Hispanic parents who answered the following questions associated with outcomes predicted by liberation theology: (1) How did the Center contribute to the development of lay leaders? (2) How did the Center contribute to building a sense of community? and (3) What changes occurred relating to the academic improvement of students attending the Center?

Results indicated that the Center was having a positive impact on the educational achievement of students. Lay leaders emerged; however, parents became involved primarily because of family and personal benefit. Non-leader participants lacked a sense of community needs; pressures of American life resulted in a more individualized sense of community than liberation theology would predict.

One interesting outcome revealed was the subtlety and complexity of the educational improvement model used by parents. They described a school improvement model with homework as the central issue affecting student success. Homework, they felt, was linked to improved grades, discipline, self-confidence, and change in attitudes toward school.

Traditional school system strategies have seldom been effective means for promoting parental involvement in Hispanic communities. These data suggested, however, that parents embraced the opportunity to become involved in a community-based mechanism that could help their children at school. Those who had leadership skills become actively involved, and others took advantage of center services.

**EVALUATION OF THE BRIDGE BUILDERS PROGRAM: STUDENTS
INVOLVED IN MULTICULTURAL LEADERSHIP ACTIVITIES**

John R. Petry and Herbert L. McCree,
The University of Memphis

Evaluators analyzed responses on a 30-item instrument from 151 former Bridge Builders program participants that were related to five areas of the program content: (1) leadership, (2) community service, (3) communications, (4) human relations, and (5) activities. Statistical analyses were the independent *t*-test, pooled variance estimate *t*-tests, paired *t*-tests, chi-square, and analysis of variance. When comparing questions using the *t*-test at the .05 level, there were 51 significant differences.

Data revealed that there were no differences between the groups on the items dealing with racial matters. There were significant differences involving some of the other seven demographic variables: age groups, time in the program, and type of vocation. African American high school students in this two-year leadership development protocol reported significantly greater gains than European Americans on many of the 15 Likert-type items. Respondents who were younger were more likely to seek social contact with other races and to develop friendships with members of other races than those who were in the older group of participants. Respondents in the program during the last five years were significantly different from those in the first five years on items relating to race, community involvement, goals, teamwork, and leadership. Those with specific choices for their careers had higher levels of satisfaction with the program than those who did not.

Comments from eight questions revealed that the program was highly effective and that it brought about positive changes in the participants. One of the most effective program areas was community service, which informed participants about municipal problems and helped them to become concerned about them and dedicated to their resolution.

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It was suggested that the program participant base be broadened to include younger students, that the program last into the college years, and that the program be replicated in other settings.

**11:00 a.m.-11:50 a.m. RESEARCH METHODOLOGY
(Discussion Session) Ursulines Salon**

PRESIDER: Gerald Halpin, Auburn University

FACTORS INFLUENCING PURSUIT OF HIGHER EDUCATION: VALIDATING A QUESTIONNAIRE

Sandra M. Harris, Auburn University

This study investigated the construct validity of the literature-based, researcher-developed Factors Influencing Pursuit of Higher Education Questionnaire. Participants were college students enrolled in general studies classes at two southeastern universities. Of the 650 questionnaires distributed, 487 questionnaires were returned; 53 questionnaires were not used in data calculations because of missing or unusable information.

Of the 453 respondents, 255 were female and 177 were male. The racial composition of the sample included 311 whites, 54 blacks, 8 Hispanics, 4 Asians, and 4 who responded to the "other" category. Participants were recruited through course instructors who read an announcement about the study in class. Questionnaires were coded to maintain participant confidentiality. Participants were granted extra credit for returning completed questionnaires, and they were given the opportunity to enter their names into a drawing for \$75.00. Participants recorded their responses on the literature-based, researcher-developed Factors Influencing Pursuit of Higher Education Questionnaire (FIPHE) questionnaire, which contained 115 closed-ended statements distributed among 10 scales.

Results indicated that the questionnaire has a high degree of internal consistency. The reliability estimates for the 10 scales range from adequate to excellent. Coefficient alpha for the scales ranged from .57 to .90. The data indicated that the questionnaire was a construct valid instrument that could be used to conduct further investigations of the factors that influence individuals to pursue higher education.

Implications were that the questionnaire could be used to conduct a multicultural study to investigate whether there were cultural differences in the factors that influence individuals to pursue higher education. The questionnaire could also be used to investigate whether there are differences in responses between college-bound and non-college-bound high school students. Data from such research could subsequently be used to address the recruitment and retention issues of specific populations.

THURSTONE AND GUTTMAN SCALES: OLD BUT NOT FORGOTTEN

John Kyle Roberts, Texas A&M University

Educational researchers have long been interested in the study of attitudes. It seems only reasonable that people's attitudes should have some effect on their behaviors (e.g., attitudes toward learning should be correlated to some degree with actual learning outcomes). There are several scale forms that can be employed to measure attitudes. This paper reviewed literature regarding the pluses and minuses of two less frequently used scales: Thurstone equal-appearing interval scales and cumulative, or Guttman, scales.

Thurstone and Guttman scales are not used as frequently as more commonly used summated scales, such as Likert scales, but nevertheless can be useful in measuring attitudes. Thurstone scales require that items be ordered as typical item ratings, and then series of items that are roughly equidistant from each other are identified.

Guttman scales are useful in measuring unidimensional attitudes. When a Guttman scale can be successfully constructed for a given attitude domain, item hierarchies are constructed such that persons with a given response (e.g., "true") for a given item always or almost always respond in a predictable fashion (e.g., "true") to all items lower in the scale hierarchy.

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The reliability of validity characteristics of scores for the various scales was briefly reviewed. Small heuristic data sets were employed to illustrate the scale construction process for these old, but still potentially useful, measurement methods.

**11:00 a.m.-11:50 a.m. SCHOOL ADMINISTRATION
(Discussion Session)Beauregard Salon**

PRESIDER: Scott C. Bauer, University of New Orleans

THE PRINCIPAL'S ROLE IN SPECIAL EDUCATION

James E. Whorton, University of Southern Mississippi; David L. Naylor, James C. Mainord, and Kathleen R. Atkins, University of Central Arkansas; Robert L. Morgan, University of Nebraska at Kearney; and Patricia A. Cruzeiro, Chadron State College

Efforts to educate students with disabilities in general education classrooms continue to present an ongoing challenge for educators today. Principals may be the key in determining whether these efforts succeed. The extent to which administrators without formal knowledge and/or coursework in special education can be supportive of, and actually, lead schools and their faculty in today's inclusive environment was one of the concerns of the researchers. In order to address this concern, more than 300 school principals and other school administrators were surveyed.

A questionnaire consisting of 42 items requiring school administrators to indicate their agreement or disagreement with special education leadership roles was utilized in this investigation. Other data collected included answers to questions regarding the percentage of time spent on regular and special education tasks, the percentage of time spent on other administrative tasks, and the number of courses completed in special education. Demographic data (highest degree earned, years of school experience, gender, etc) were also collected. The data were analyzed with SPSS for Windows (Ver 8.0) and were presented in graphic and narrative formats.

The conclusions focused on principals' facilitating change through collaborative planning and problem solving between general and special education professionals and family members. Barriers included administrative constraints, teacher preparation, and funding patterns. It was concluded that the administrators who saw special education as an opportunity would have had fewer problems and a higher rate of success.

USING FIELD-BASED INQUIRY TO PREPARE FUTURE SCHOOL PRINCIPALS FOR PARENT INVOLVEMENT

Jack Blendinger and Linda T. Jones,
Mississippi State University

Preparing future school administrators to work with families involves moving from an understanding of the importance of the teacher's role in working with parents at the classroom level to learning the principal's role in encouraging and supporting parent involvement throughout the school. This paper focused on the use of field-based research in preparing school principals. As an integral part of their preparation programs, students studying educational administration examined what schools were actually doing to involve families in their children's education. Working in research teams, students put their knowledge to work in examining parent involvement practices in selected schools. A framework focusing attention on the principal's role in orientation activities, parent-teacher organizations, school-home newsletters, parent conferences, and use of volunteers provided direction for school site visits.

Feedback from students using the framework to investigate parent involvement practices in school settings was positive. As a culminating activity students shared: (1) how the field-based research either changed or reinforced their beliefs about parent involvement, (2) specific parent involvement strategies that they found to be successful, and (3) how they will use the information gained in their first administration job.

The framework used to guide the students' research efforts, data collected, and students responses to the assignment was shared with participants attending this session. National education standards and essential

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research findings on the benefits of parent involvement were also highlighted in the presentation. The Interstate School Leaders Licensure Consortium of the Council of Chief State School Officers, whose purpose is to develop model standards and assessments for licensing educational leaders, has called attention to the importance of parent involvement in preparation programs by stating as one of six standards that "a school administrator is an educational leader who promotes the success of all students by collaborating with families."

MANAGING DISCRETIONARY SCHOOL FUNDS: FISCAL PRACTICES OF HIGH SCHOOL PRINCIPALS

Kathleen J. Gonzales, St. Bernard Parish (LA) Schools,
and Ira E. Bogotch, University of New Orleans

This study examined the preparation and practices of high school principals in managing discretionary school funds. The study went beyond newspaper headlines trumpeting rampant mismanagement and indictments. The data from this national study of 1300 principals revealed the existence of a "hidden economy," with millions of dollars collected and handled annually by principals (and other school personnel) as they routinely engaged in fund-raising, athletics, concession sales, and business partnerships.

Over 1300 high school principals from across the United States responded to questions on a 76-item survey instrument developed by the authors to describe, measure, and analyze the fiscal management of discretionary school funds. The data were reported both descriptively [i.e., frequencies and percentages] and inferentially in order to describe pertinent "facts" of the "hidden economy," related to: (1) what principals know and understand about fiscal management, (2) district and state policies governing its spending, and (3) national reform trends influencing school fiscal management. The findings brought to light the responsibilities, constraints, and opportunities associated with these non-dedicated (i.e., discretionary) funds.

The findings suggested that in spite of trends in local, state, and national reforms urging increased governance responsibilities for school principals, there were more powerful countervailing pressures and constraints placed upon principals to comply with state and district "accountability" policies. When these pressures are coupled with principals' own lack of fiscal knowledge, especially related to the investment of carryover funds, it seems unlikely that the majority of principals will be able to take full entrepreneurial advantage of the hidden economy inside our nation's public high schools. Given these contradictory influences, we would conclude that most high school principals were unable to fully utilize a potent response (i.e., discretionary budgeting practices) to inadequate state and local school funding levels.

11:00 a.m.-11:50 a.m. SCHOOL VIOLENCE (Discussion Session)..... Cabildo Salon

PRESIDER: Beverly M. Klecker, Eastern Kentucky University

ATTRIBUTIONS TOWARDS VIOLENCE: A COMPARISON OF MALE AND FEMALE HIGH SCHOOL STUDENTS

Christine E. Daley, Georgia Public Schools, and Anthony
J. Onwuegbuzie, Valdosta State University

Violence among youth has reached epidemic proportions. However, despite a plethora of research, we still do not understand why adolescents become involved in violent acts. Despite considerable research about youthful aggression, few studies have examined the role of social cognitive factors, such as attributions, in placing children at risk for involvement in acts of violence. Of those which have, even fewer have attempted to approximate experimental conditions by manipulating situational or contextual information. These methodological flaws may have culminated in inaccurate predictions of violence.

This study compared male and female high schools students with respect to the causal attributions they have made for others' behavior, and the salient pieces of information they utilized in arriving at their attributions.

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Whereas prior research has focused on immutable antecedents of violent behavior (e.g., genetic, biological, familial characteristics), this study examined more permeable factors (i.e., attributions) that are susceptible to change. Thus, this investigation attempted to gather practical information that could be utilized to formulate cognitive intervention strategies targeted toward reducing levels of violence among youth.

Eighty females and 73 males were administered a 12-item questionnaire designed to assess attributions made by juveniles for the behavior of others involved in various violent acts. Each item consisted of a vignette, followed by three possible attributions (person, stimulus, and circumstance) presented in multiple-choice format, and an open-ended question asking the subjects' reason for their choice.

Females tended to make significantly fewer attributional errors than did males in 7 of the 12 scenarios. However, disturbingly, for 6 of the 12 scenarios, 45% or more of the females made attributional errors, with 80% or more females making attributional errors on three occasions.

Findings suggested that a significant proportion of females made attributional errors when evaluating the behavior of others by ascribing external explanations to individuals' violent actions. Implications were discussed.

EFFECTS OF LIMITED DEVELOPMENTAL EXPERIENCES ON MORAL REASONING

Rebecca Begley, Carol Jones, Darrell Degraw, and John Thornell, Delta State University,
and O. Edward Jack and Reid Jones, Mississippi Valley State University

Well-known theories and research (Piaget, Kohlberg, and Rest) on moral reasoning place substantial emphasis on the importance of cognitive developmental experiences. However, high school students have very limited cognitive developmental experiences with recent biomedical progress on issues such as cloning, gene-splicing, and organ harvesting. As adults, those same students will be involved in decisions on the morality and legality of these procedures.

A bibliography was distributed to the audience, based on sources from ERIC, PsychLIT, Internet, and a summer institute on the Human Genome Project. On the basis of this literature review, it was concluded that existing theory and research rely heavily on cognitive developmental experiences. In that regard, theory and research do not provide an appropriate basis for developing a pedagogy that will prepare current students for decisions they will need to make as informed and educated adults.

An exploratory study was conducted on 63 high school students. Four moral dilemmas were constructed from issues related to recent biomedical advances. The well-known Heinz dilemma from Kohlberg's work was added to provide a traditional scenario for comparison. Kohlberg's methodology and framework were used by five judges to categorize responses. Significant ($p < .05$) inter-rater reliability was obtained for responses to the biomedical dilemmas. However, consistent evidence for the role of cognitive developmental experiences was not found among responses to the dilemmas. Suggestions for how to proceed with the study of this problem were presented.

12:00 p.m.-12:50 p.m. SIGNIFICANCE TESTING (Symposium).....Cathedral Salon

ORGANIZER: James E. McLean, The University of Alabama at Birmingham

STATISTICAL SIGNIFICANCE TESTING-WHAT SHOULD RESEARCH IN THE SCHOOLS' POSITION BE?

James E. McLean, The University of Alabama
at Birmingham

The use and misuse of statistical significance testing may be the greatest methodological issue to confront the current generation of educational researchers. Positions have been expressed that range from recommendations for the total abandonment of statistical significance testing as a research methodology option to those who choose to ignore the controversy entirely and use significance testing following traditional practice. The Fall 1998 issue of *Research in the Schools* 5(2) is devoted to this issue. It includes three articles addressing

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various aspects of the statistical significance testing issue, three invited critiques of the articles, and rejoinders by the original authors.

While individual reviewers and the editors of *Research in the Schools* have exercised their own judgments in this matter in carrying out their duties, a more formal statement of policy regarding this issue is needed to provide guidance to prospective authors and reviewers alike. The editors and editorial board of *Research in the Schools*, MSERA's research journal, invited all members of MSERA to participate in an open discussion of the issue and how the journal should respond. It was hoped that discussion and input from the membership of MSERA would assist the editors and editorial board in the development of an appropriate policy for the journal.

1:00 p.m.-2:50 p.m. HIGHER EDUCATION (Training Session) Bienville Room

PRESIDER: Neelam Kher, Northwestern State University

EXCELLENCE IN TEACHING: RESOURCES FOR FACULTY IN HIGHER EDUCATION

Neelam Kher and Susan Molstad, Northwestern State University of Louisiana,
and Roberta Donahue, The University of Alabama

One of the most elusive and controversial issues in higher education today surfaces when academicians attempt to answer the question, "What makes a good college teacher?" Most universities purport that teaching is valued, and evidence for such is provided through student evaluations of instruction, peer evaluations and observations of faculty by department heads.

There is considerable agreement among experts that, on the one hand, faculty are expected to have skills and knowledge to be effective teachers, and, on the other hand, the only credentials they are required to possess are graduate or terminal degrees in an academic discipline. In recent years, several well-respected scholars have highlighted the need for instructional improvement in postsecondary education.

An extensive review of literature suggests that the instructional characteristics of effective teachers include deliberate plans for classroom management and learning, alternatives for delivering instruction, and a variety of teaching styles for providing explanations and demonstrations.

The purpose of this session was to provide pedagogical training that would enhance teaching effectiveness at the postsecondary level. Through the use of presentation materials and hands-on activities, the authors addressed issues of concern both to beginning teachers and those who would like to enhance their teaching through innovative practices.

The following topics were addressed in the training session: (1) creating a positive learning environment, (2) teaching a course for the first time, (3) techniques for enhancing learning, (4) managing the classroom environment, and (5) using formative feedback to improve course ratings.

Because of the renewed interest in teacher effectiveness and assessment and the goal of offering students instructional excellence, this training session provided a foundation for fostering quality teaching.

1:00 p.m.-1:50 p.m. EDUCATION REFORM (Symposium) Cathedral Salon

ORGANIZER: Rodney R. J. Uzat, University of Southern Mississippi

TOWARD DEVELOPMENT OF A DIVERSIFIED SUPERVISION MODEL: SHAPING INSTRUCTIONAL LEADERSHIP FOR THE TWENTY-FIRST CENTURY

Overview

The culture of American schools is changing rapidly as the nation prepares for the twenty-first century. Increases in youth violence, children born into poverty homes, and disruption of family structures pose new demands on schools, while advances in technology offer teachers enhanced opportunities to deliver instruction. In the midst of this multifaceted educational environment exists a system of instructional supervision

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that is outmoded. Too often, educational supervisors hurriedly observe instruction, fill out checklists, and hustle teachers through post-evaluation conferences. Consequently, teacher professional development and student learning may suffer, and schools may settle for mediocrity rather than reaching their potential.

This symposium featured: (1) a paper proposing a model for "diversified" supervision responsive to a number of the social, cultural, and political realities of today's schools; (2) two additional papers offering examples of how innovative supervisory practices can fit within the context of this model; and, finally, (3) a critique of the ideas offered by an experienced professor of educational administration.

Supervisory Behaviors That Reflect Reality: A Diversified Supervision Model

Rodney R. J. Uzat, University of Southern Mississippi

Several scholars have proposed "developmental" or "differentiated" supervisory models that recognize the importance of diverse supervisory practices; nevertheless, these models fail to address the culture of the school. Consequently, the author conceptualizes a "diversified" model of supervision that builds on the strengths of developmental and differentiated models while taking into consideration the need for development of a shared set of goals and values that square with the culture of the given school.

Cognitive Coaching and Self-Reflection: Looking in the Mirror While Looking Through the Window

Shaunna K. Uzat, University of Southern Mississippi

A diversified model of supervision calls for use of innovative supervisory strategies. The author illustrated how cognitive coaching that is sensitive to the realities of the teaching setting can serve as an effective means for prompting teacher growth. Further, cognitive coaching can also serve to promote teachers' tendency to self-reflect, resulting in a cyclical model of professional improvement that alternates between other-directed and self-directed strategies.

Diversifying Supervision for Maximum Professional Growth: Is a Well Supervised Teacher a Satisfied Teacher?

Sylvia H. Robinson, University of Southern Mississippi

Results of the diversified supervisory process were investigated in the third paper. Borrowing from various characterizations of the clinical supervision model, the author proposed a set of supervisory elements and concepts that exemplify one approach to diversified supervision. The author focused on the outcomes of such a system, particularly in regard to the personal and professional satisfaction of the teacher.

Critique

Ira E. Bogotch, University of New Orleans

A critique of the papers presented was offered. The audience was invited to respond to the papers and ideas presented.

1:00 p.m.-1:50 p.m. EDUCATION POLICY (Discussion Session) Gallier Salon

PRESIDER:John M. Enger, Arkansas State University

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**ARKANSAS' 2.0 GPA POLICY ON PARTICIPATION:
COACHES' PERCEPTIONS OF ITS IMPACT**

John M. Enger, D. Lynn Howerton, Wilbert Gaines,
and W. Jack Sugg, Arkansas State University

Arkansas requires high school students to have a 2.0 GPA to be eligible to participate in sports and other interscholastic extracurricular activities. This study summarizes coaches' attitudes on the effects on this participation policy. Sport directors for boys and girls were surveyed (boys' and girls' basketball and track coaches, boys' football coaches, and girls' volleyball coaches). To contrast sport and non-sport director perceptions, directors of non-sport activities were also surveyed (band and choral music directors, and FBLA and FFA advisors).

Questionnaires were sent to 3578 activity directors in all public secondary schools in the state; analyses were conducted on 1286 returned questionnaires, representing a 36% response rate. Most boys' coaches (51%) felt the GPA policy had decreased participation in their programs, 46% felt participation had remained the same, and 3% reported an increase. Most girls' coaches (69%) said participation was about the same, 26% said it had decreased, and 5% reported an increase.

A number of contrasts were made between coaches and non-sport directors. Twice as many coaches felt that the GPA policy penalized their programs than those who felt it benefited their programs. In contrast, more non-athletic activity directors felt the policy benefited their programs than those who said it penalized their programs. Another contrast found that most coaches (74%) would prefer a policy different than the 2.0 GPA policy; however, a majority (60%) of the non-sport activity directors would keep the policy. In their written comments, coaches felt that the GPA policy was hurting those students who needed the activities the most. Almost without exception, the coaches reported that when an athlete became ineligible, he or she dropped out of school, became involved in gangs and drugs, and, in many cases, was arrested for violent crimes.

**DECLINE IN ARKANSAS HIGH SCHOOL SPORTS PARTICIPATION SINCE
IMPLEMENTATION OF THE 2.0 GPA ELIGIBILITY POLICY**

D. Lynn Howerton, John M. Enger, Wilbert Gaines,
and W. Jack Sugg, Arkansas State University

The state of Arkansas initiated a participation policy in 1991 whereby students had to maintain a minimum GPA to play sports or participate in other competitive extracurricular activities such as band. Several studies conducted prior to and after initiation of the minimum participation requirement warned that such a policy would exclude large numbers of students; one study estimated that 45,000 students were academically ineligible to participate in extracurricular activities.

Sport participation data from annual reports published by the National Federation of High School Associations for the 1990-91 through 1996-97 academic years were used to contrast the total number of students participating in the top 10 major sports in Arkansas and the United States. Over a six-year period, Arkansas boys' sports participation declined by 43% while the national participation rate increased 9%. Arkansas girls' participation had declined 5% by 1995, then had increased by 13% in 1997, but did not match the 18% national increase. Arkansas boys' football and basketball declined, but track participation was comparable with national trends. Arkansas girls' basketball declined, whereas girls' track was comparable, and volleyball showed a relative increase to national data.

Sports participation in Arkansas was contrasted with six adjacent states. Arkansas boys' football declined 63%, whereas adjacent states boys' football showed a 30% decline to an 83% increase. Arkansas boys' basketball participation declined 42% and contrasted with adjacent states participation 10% decline to 82% increase. Arkansas girls' basketball showed a 38% decline from 1990-91 to 1996-97 compared with a 29% decline to 68% increase in adjacent states.

Arkansas' initiation of the GPA policy had a dramatic negative effect on sports participation, especially in boys' basketball and football, and girls' basketball. The declines in participation raise questions about whether the GPA standard had the intended effect of motivating students to higher academic standards to participate in sports.

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**IMPACT OF ARKANSAS' 2.0 GPA POLICY ON STUDENT
ELIGIBILITY FOR SPORTS AND OTHER ACTIVITIES**

John M. Enger, D. Lynn Howerton, Wilbert Gaines,
and W. Jack Sugg, Arkansas State University

Beginning with the 1991-92 school year, Arkansas adopted GPA eligibility policies for student participation in interscholastic extracurricular activities (all boys and girls sports, band, choir and school clubs, such as FBLA and FFA). The GPA requirement was increased over several years. Effective the 1994-95 school year, high school students needed a GPA of 2.0 or higher to be eligible. This study investigated the impact of this policy on student eligibility for participation.

Surveys were sent to superintendents in the 311 school districts; 78% responded. Information was requested for each secondary school in the district: the numbers of students eligible and ineligible for participation by grade level, gender and race.

Proportionally, 22% of all secondary students in Arkansas were ineligible. By gender, 63% were male, 37% female; and by race, 62% were white, 36% black, and 2% represented other racial backgrounds. Ineligibility rates by race and gender were: black males, 42%; black females, 29%; males of other races, 26%; white males, 23%; females of other races, 15%; and white females, 13%.

Using the 22% ineligibility rate and the number of secondary students the Arkansas Department of Education reported enrolled in 1995-96, an estimated 45,000 secondary students were ineligible to participate in sports and other interscholastic extracurricular activities that year. In summary, the GPA policy impacted black students more than whites and males more than females. Especially impacted were black males. The social consequences of a stringent GPA policy were discussed.

**1:00 p.m.-1:50 p.m. EXCEPTIONAL EDUCATION
(Discussion Session)Pontalba Salon**

PRESIDER:Linda T. Coats, Mississippi State University

**THE RELATIVE EFFECTS OF RULE-BASED STRATEGY AND TRADITIONAL
METHOD OF INSTRUCTION ON THE SPELLING PERFORMANCE OF
ELEMENTARY STUDENTS WITH LEARNING DISABILITIES**

Craig Darch and Soobang Kim, Auburn University

This study compared two instructional methods for teaching spelling to elementary students with learning disabilities to find the more effective and expedient way to increase overall spelling performance. Forty-two second- to fourth-grade students with learning disabilities were randomly assigned to each of two treatment groups: (1) rule-based strategy instruction focusing on teaching students spelling rules in which they utilized phonemic, morphemic, and sentence-based strategies to spell words, and (2) traditional method of instruction that provided an array of spelling activities (e.g., introducing the words in the context of story, defining the meaning of the words, sentence writing, and dictionary skill training) to practice spelling words.

Daily instructional sessions lasting 20-25 minutes were conducted for four consecutive weeks. Three graduate students completing their training program in the area of learning disabilities served as experimental teachers. To control for teacher bias each experimental teacher taught both treatment groups. After receiving instruction in one of the instructional methods, the subjects were compared on results from four unit tests, a generalization to sentence writing measure, a transfer measure, a standardized measure, and a maintenance measure. Finally, an attitude/satisfaction scale was used to determine if students showed a preference to either instructional method.

An analysis of variance was conducted on the scores of each dependent measure separately. Results indicated that the rule-based strategy instructional method was significantly more effective in increasing

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the spelling skills of the subjects. The educational implications of these results were that, when teaching students with learning disabilities, it is best to provide rule-based spelling strategies in a structured manner rather than utilizing spelling-related activities often found in traditional curricula.

AN IMPROVED MODEL FOR EVALUATING MINORITY AND NON-MINORITY STUDENTS WITH LEARNING DISABILITIES

S. John Obringer, Mississippi State University

The number of students in learning disabled classes has grown every year since the passage of The Education for All Handicapped Children Act. This growth has resulted in a learning disabled classification for approximately 4.5% of public school students. Some authorities feel that the incidence of special education placement has reached crisis proportions, especially among minority students.

Because of the significant over-representation of minority students identified as learning disabled, this study investigated the effects of modifying the discrepancy formula between intelligence and achievement commonly used to identify and place school age students in learning disabled programs. Three modifications were applied to the discrepancy formula using a sample of 123 students currently being served in learning disabled classes in a school district in Mississippi. The modifications to the discrepancy formula were calculated using the SPSS package and consisted of the following: (1) using only the full scale IQ, thereby eliminating the choice of using the higher of the verbal or performance IQ, (2) raising the full scale IQ to a minimum of 85, and (3) raising the discrepancy between intelligence and achievement scores to approximately one and one-half standard deviations (22 points) with the sole use of full scale IQ. The results indicated that raising the minimum full scale IQ to 85 in the discrepancy formula resulted in the greatest reduction to the over-representation of minority students being placed in classes for students with learning disabilities. Suggestions for future research in this area were offered.

A PILOT STUDY INVESTIGATING A MULTISENSORY SPELLING INTERVENTION TO IMPROVE SHORT- AND LONG-TERM SPELLING WORD RECALL FOR STUDENTS WITH LEARNING DISABILITIES

Johan W. van der Jagt, The University of West Alabama

The pilot study examined the effectiveness of a multisensory spelling intervention under two conditions: non-perceptual-vowel enhanced and perceptual-vowel enhanced, and their effect on short- and long-term recall of high frequency spelling words in isolation and in context for students with learning disabilities.

The randomly-selected sample consisted of 15 fourth- and fifth-grade students with learning disabilities ranging from 10 to 12 years of age. Subjects were pretested for significant differences in auditory discrimination skills and spelling ability.

A pretest-posttest control group design was utilized. Spelling pretests to determine 12 high frequency words in isolation and in context to be used in the intervention were given. A multisensory (VAKT) spelling intervention was utilized under two conditions for the experimental groups: multisensory with perceptual-vowel enhancement in which the vowels were darkened with black marker, and non-perceptual-vowel enhanced. The control group received a traditional method. Posttests to determine short-term recall of words in isolation and in context were given the day directly following the intervention. Second posttests were given to determine long-term recall of high-frequency words in isolation and in context within seven days.

Results were analyzed using one-way analysis of variance and *t*-tests at the .05 alpha level. Although significant improvement within groups was revealed, there were no significant differences for mean spelling scores among groups. Implications of the results were discussed in light of the pertinent literature, and recommendations, e.g., larger sample, decreased repetitive writing, slower writing speed, time scheduling, and varied segmentation techniques, for future research replication were given.

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**1:00 p.m.-1:50 p.m. RESEARCH IN THE SCHOOL
(Discussion Session) Ursulines Salon**

PRESIDER: Ernest A. Rakow, The University of Memphis

THE RELATIONSHIP BETWEEN MIDDLE SCHOOL CULTURE AND TEACHER EFFICACY AND COMMITMENT

Ellen H. Reames, Muscogee County (GA) School District,
and William A. Spencer, Auburn University

The purpose of this study was to explore the relationship between the culture of the middle school and the teachers sense of efficacy and commitment. A total of 275 middle school teachers in Georgia, representing 40 schools divided equally among rural and urban contexts, completed a four-part instrument designed to measure perceptions of school work culture, organizational commitment, and teacher efficacy. School work culture was operationalized by The School Work Culture Profile, which consists of four subscales: organizational planning, staff development, program development, and school assessment. Teacher efficacy was measured by Gibson and Dembo's Teacher Efficacy Scale, while teacher commitment was assessed using the Teacher Organizational Commitment Questionnaire by Porter et al.

Using canonical correlation, the responses were analyzed to investigate the relationship between school work culture process and structure variables, on the one hand, and teacher beliefs of efficacy and commitment, on the other. The results revealed that all four dimensions of school work culture were approximately equally important in explaining differences in teacher commitment and efficacy. However, these dimensions were more strongly related to level of organizational commitment than they were to personal efficacy and least related to teaching efficacy.

A CASE STUDY OF A MAGNET SCHOOL UNDER FIRE IN A DISTRICT BATTLE OVER QUALITY VS. EQUITY ISSUES

Cathy S. Hightower, University of New Orleans

This case study examined one magnet school, Ben Franklin High School, that has drawn the most criticism as elitist in the midst of a parishwide debate over greater access to magnet schools. The evidence sought from this study was how one school that was being subjected to the closest scrutiny about its admissions methods and perhaps its right to exist attempted to answer the questions that continue to dominate discussions about magnet schools around the country: (1) How can admissions policies and procedures create equity? (2) What standards will be continued to guarantee quality of education? (3) Should standardized test scores be a component of eligibility? (4) How do federal government expectations that racial integration be the primary goal of magnet schools operate within a parish whose approach to magnet schools has been primarily curriculum-based instead of enrollment-based? and (5) How do schools balance the competing values of equity and quality?

The researcher met and interviewed constituencies knowledgeable about Ben Franklin High School who represented competing equity and quality value concerns. The data gathered from these interviews and archival evidence from news sources and public records (OCR compliance reports and school board minutes) were used to track how the political subcultures of Ben Franklin evolved and have influenced the development of its values and and practices within the Orleans Parish policies regarding magnet schools.

Tentative conclusions were drawn from tracking the development of Ben Franklin's position that magnet schools in New Orleans can achieve greater equity while not sacrificing quality. The findings of the study suggested implications for the ongoing magnet school admissions debate.

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PARENTAL VIEWS OF AN INNOVATIVE CURRICULUM

Charles W. Babb and Tracey R. Ring,
Middle Tennessee State University

This study examined the attitudes of parents whose children were involved with the development of an innovative program in an elementary school. Specifically, parents were asked to respond to a 25-item, Likert-type scale that provided an overall indication of their satisfaction with the program.

The sample included over 35 parents whose children were in the classrooms in which the EFG 21st Century Curriculum was being implemented. The EFG program emphasizes core research skills as well as topics that emphasize Ecology, the Future, and Global Education. Another sample of 36 parents was drawn from classes that did not use the EFG units of work. The overall sample of parents covered the K-6 grade level range of the elementary school.

The Parent Satisfaction with School form was distributed to both samples and subsequently returned for analysis. The form required respondents to mark their satisfaction on 25 items, which allowed an overall mean to be calculated for each parent. Group means were then calculated for both parent samples. For comparison, *t*-tests for independent groups analyzed group differences.

The results will be used at the elementary school to help refine communication to parents regarding the EFG program. The EFG program emphasizes parental involvement, and the findings suggested positive parental support and enthusiasm regarding the program.

**1:00 p.m.-1:50 p.m. TEACHING AND LEARNING
(Discussion Session)Beauregard Salon**

PRESIDER: Marcia Abide, Loyola University of New Orleans

A STUDY OF COMPARISONS BETWEEN SCORES ON THE TENNESSEE SELF-CONCEPT SCALE AND THE LEARNING AND STUDY STRATEGIES INVENTORY INDICATED BY FRESHMEN AND SENIOR-LEVEL COLLEGE STUDENTS

Linda G. Brown and Linda W. Morse, Mississippi State University

This study explored the relationship between self-concept as measured by the Tennessee Self-Concept Scale-2 (TSCS2) and study strategies as measured by the Learning and Study Strategies Inventory (LASSI) in a population of 40 college students ranging in age from 18 to 34. Twenty participants were freshmen attending a small junior college, and 20 were seniors completing their senior block internship in education at a public university, both located in the mid-south.

This study was designed to determine if there was a significant difference between means indicated by 20 freshmen and 20 seniors on the Learning and Study Strategies Inventory (LASSI) and Tennessee Self Concept Scale (TSCS2), and any difference in means between females and males on both measures. To determine if significant differences existed, a one-way MANOVA, between-groups design was conducted between 10 variables defined by the LASSI and eight variables defined by the TSCS2. The research question was whether there is a significant difference in means between freshmen and seniors, and females and males on each variable measured by both the LASSI and TSCS2.

Results were analyzed using one-way MANOVA, between-groups design. This analysis revealed a significant multivariate effect for class on the LASSI. Seniors indicated greater self-perception of worry about school than did freshmen. They also indicated greater self-perception in their ability to select main points of information from text and lectures than freshmen. Likewise, seniors indicated greater self-perception in their approach to taking tests and ability to evaluate the appropriateness of each approach than freshmen. This analysis also revealed a significant multivariate effect for class on the TSCS2. Seniors indicated greater perceived value and worth as a family member than freshmen. Also, seniors indicated greater self-perception in the academic and work settings than freshmen. In contrast, this analysis failed to reveal a significant multivariate effect for gender on both LASSI and the TSCS2 measures.

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**COMPARISON OF THINKING STYLES BETWEEN STUDENTS
FROM EDUCATION AND STUDENTS FROM ACCOUNTING**

Ming Lei, The University of Alabama

Previous research has shown that students display a variety of cognitive differences when they are challenged to learn new things. Thinking styles have effects in students' vocational choices. Robert J. Sternberg, in his book *Thinking Styles*, systematized thinking styles as three functions (legislative, executive, and judicial), four forms (monarchic, hierarchic, oligarchic, and anarchic), and six groups of levels, scopes and learning (global, local, internal, external, liberal, and conservative). He developed eight items for each of the 13 subgroups of thinking styles to test if a subject can be grouped into this sub-category. The inventory containing $13 \times 8 = 104$ items was named as Sternberg-Wagner Self-Assessment Inventory on Thinking Style (SWSAITS).

The purpose of the study was to investigate if differences existed in thinking styles between college students from education and students from accounting. The subjects were 24 undergraduate students from education and 67 undergraduate students from accounting. The measurement was SWSAITS. The reliability of Cronbach alpha for the combined subjects was .93. Three MANOVA were conducted for functions, forms and levels of thinking style, respectively. At an alpha level of .05, no significant multivariate differences were found for functions, levels, scopes and learning of thinking styles. Significant multivariate differences were found among the four forms of thinking styles. Tukey's follow-ups showed that students from education were more likely to be grouped into oligarchic and anarchic thinking styles than management students.

The conclusion was that there were differences of thinking styles between students from education and students from accounting. Thinking styles may influence students' vocational choices.

**EFFECT OF INTERSPERSING LESS DIFFICULT PROBLEMS ON THE COMPLETION
AND PREFERENCE OF ASSIGNMENTS INVOLVING LINEAR EQUATIONS**

Thomas A. DeVaney, Southeastern Louisiana University

The purpose of this study was to examine the effect of interspersing less difficult problems in an assignment involving the solution of linear equations in one variable. A within-subjects design was used to compare performance on two assignment sheets. Additionally, choice data were analyzed to determine if assignment preference was influenced by the interspersal of brief problems. The subjects for this study consisted of approximately 50 graduate students enrolled in an introductory educational research course.

The assignment sheets were printed on an 8.5 x 11 inch sheet of white paper with the title typed centered and boldface at the top of the page. The first assignment contained 16 target problems involving the solution of linear equations in one variable. These problems required the student to combine like terms across the equal sign (e.g., $13x + 18 = 7x + 30$) and resulted in the division of a two-digit by one-digit number (e.g., $12/6$). The second assignment also contained 16 target problems. However, six additional problems were interspersed. The additional problems did not require the student to combine like terms across the equal sign (e.g., $5x = 40$). The additional problems were randomly interspersed with a condition that no two would appear consecutively. After completing the assignments, students were asked to indicate which assignment format they preferred.

The assignment sheets were used to collect data concerning the (1) number of total problems completed, (2) number of target problems completed, and (3) percentage of target problems completed correctly. A *t*-test for nonindependent means was used to test for differences between assignments. Preference data were analyzed using a chi-square goodness of fit. An alpha level of .05 was used to determine statistical significance for all tests.

1:00 p.m.-1:50 p.m. TECHNOLOGY (Discussion Session) Cabildo Salon

PRESIDER: Jimmy Carl Harris, Southeastern Louisiana University

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**TEACHING ENGLISH METHODS STUDENTS HOW TO
USE TECHNOLOGY IN THEIR FUTURE CLASSROOMS**

Sue S. Minchew and D. Kay Brocato,
Mississippi State University

This project introduced English methods students to practical uses of technology for publishing student writing. After emphasizing the importance of the publication stage in the writing process, the instructors used a hands-on approach to guide the students in the construction of personal web pages and brochures.

The web pages included digitized pictures of the students, their personal profiles, descriptions of their interests, and their career objectives. The brochures, which also contained the students' digitized pictures, "advertised" their particular skills, their experience, and their teaching philosophies. The web page gave the students an immediate on-line publication available to anyone who chose to access it; the brochure provided an inexpensive, professional quality paper publication that the students could (and did) showcase to future employers.

The skills learned in the class will enable the methods students to employ similar techniques to publish their own students' writing and to give writing assignments with real-world significance, assignments that matter to the students themselves. The methods students' written reflections about the project indicated positive attitudes not only toward their own publications but also toward the use of technology in their future English classrooms.

**UTILIZING DISTANCE LEARNING AND THE CASE STUDY METHOD
TO ENHANCE INSTRUCTION BETWEEN TWO UNIVERSITIES**

Jack J. Klotz, University of Southern Mississippi, and John Borsa,
Southern Illinois University, Edwardsville

Traditional university preparatory programs have been unilaterally oriented, i.e., maintaining their own solidarity in terms of geographic areas of service, delivery styles, organizational culture, and programmatic formatting. Yet, because of national associations and various reports, many common factors exist within such preparatory programs as a result of the existence of a number of agreed upon nationally oriented programmatic standards. This presentation provided a strong philosophical argument for utilizing distance learning and case study methodology to connect students from different programs/universities, geographic areas, and courses to recognize the commonality of problems faced in K-12 educational administration.

Finally, this presentation provided participants with information on the strategy and implementation timelines for the establishment of a linking instructional delivery system between two university campuses' administrative training programs via distance learning modality, while employing the case study method to provide future practitioners located in different geographic areas with the opportunity to actively interact simultaneously with each other in seeking resolution to "real world" educational problems. Additionally, the presentation identified and discussed the constricting factors and positive benefits associated with implementing such an interactive program utilizing currently available technology.

USING E-MAIL TO EXTEND DIALOGUE IN AN ENGLISH METHODS COURSE

B. Joyce Stallworth, The University of Alabama

This action research was undertaken to determine the usefulness and effectiveness of dialogue via e-mail between an English education professor and preservice English teachers. Ten students enrolled in a secondary English methods course were concurrently enrolled in a 90-hour field experience with area master teachers. The purposes of the e-mail project were to: (1) provide opportunities for the students to reflect on and respond individually to issues discussed in the methods class and their own teaching during clinical experiences, and (2) provide individual guidance to the preservice teachers.

The students responded to bi-weekly professor-developed queries based on class readings, discussions, and feedback from their clinical experiences. As the semester progressed, the queries became less

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structured, students' responses became more reflective, and the e-mails became a dialogue between student and professor on major issues about learning to teach, including teaching with a multicultural perspective, classroom management, planning, and assessment. At the end of the course, students evaluated the semester-long dialogue with the professor.

The research questions addressed were: (1) How well did students internalize, articulate, and use effective teaching principles and practices taught in the methods course? (2) What were the students' perceptions of communicating via e-mail with their professor? and (3) How can students' reflections, responses, and evaluations be used to improve the teaching and learning process in the methods course and in clinical experiences? Students' reflections and evaluations were read carefully, coded, and placed into categories according to emerging themes. Preliminary conclusions were constructed, revised, and written into a final version. The findings informed the planning of the course and field assignments for the following semester. The findings also had major implications for other programs in this particular college of education as well as other similar teacher education programs.

2:00 p.m.-2:50 p.m. EDUCATION REFORM (Symposium)Cathedral Salon

ORGANIZER: Jeffrey Gorrell, Auburn University

VOICES IN EVALUATION OF SCHOOL REFORM EFFORTS: THE NEW ORLEANS AREA LEARNING CONNECTIONS PROJECT

Overview

The primary goal of this symposium was to explore the concept of "voice" in school reform evaluation. The Learning Connections Project, a school improvement project conducted in five New Orleans area parishes by the Center for Development and Learning (CDL) in Covington, Louisiana, provided the context for this symposium. Members of the research and evaluation group associated with this project presented and discussed perspectives related to roles of evaluators engaged in evaluating multi-year, school reform efforts. The papers and the overall discussion progressed from an understanding of the nature of the Learning Connections Project to issues associated with the design, data analysis, interpretation of findings, and the role of advocacy positions in evaluation. The intent of the symposium was to highlight existing and emerging evaluation issues in the context of an ongoing project.

What is the Voice of the Evaluator in an Evolving School Reform Initiative?

Jeffrey Gorrell and Nancy Ares, Auburn University,
and Glenda Thorne, Covington, LA

The first paper examined the basic relationship between evaluators and their clients. Evaluators need to understand the vision of a project more than understanding even the specific activities of the project. Without that understanding, evaluation efforts become technical exercises devoid of meaning to the participants and, ultimately, to the evaluators who are attempting to make professional judgments about the successes or failures of the project. Through the existing Learning Connections Project evaluation plan, the presenters examined the articulation of the project staff's vision and construction of an evaluation plan that can be sensitive to that vision and to the changing dimensions of the project. Finally, they examined the roles that evaluators play in providing advice and recommendations throughout an ongoing, evolving school reform project.

Whose Voice Do You Hear When Participants' (Student, Teacher and Principal) Voices Clash?

Nancy Ares, Young Suk Hwang, and Jeffrey Gorrell, Auburn University

The second paper detailed the dilemma inherent in listening to diverse participants' voices during the course of an evaluation. In particular, they discussed merging conflicting viewpoints into a multi-level

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description of what project participants perceived as successful and unsuccessful within an evolving school-improvement project. Data from interviews and observations served as the source of discussion of this topic.

How Does the Evaluator Discern and Communicate Issues of Power in Communities of Difference?

Gisele Waters and Nancy Ares, Auburn University

The third paper examined the advocacy roles that evaluators may play in school reform. They reviewed three contemporary perspectives on evaluation, and, using the Learning Connections Project as a context, explored how issues of diversity, power, and equity could be incorporated as important elements in evaluation and in successful school reform efforts.

How Does the Evaluator Discern and Communicate Issues of Critique?

Marty Alberg, The University of Memphis

Following the presentation of these papers, a critique and a facilitated discussion with the audience were provided.

2:00 p.m.-2:50 p.m. COUNSELING (Discussion Session).....Gallier Salon

PRESIDER: Cynthia M. Gettys, The University of Tennessee, Chatanooga

EFFECT OF INTRODUCTORY COUNSELING COURSE ON RETENTION RATES

Mary Hall O'Phelan and Jim Fulkerson, Western Kentucky University

The purpose of this study was to compare student retention rates for beginning college students who took a 100-level counseling course designed to include career information, study skills, and orientation to college with university-wide retention rates.

Data were gathered via the office of institutional research on students enrolled in the counseling course during the four years between 1990 and 1993. Information included the student's ACT score from high school, the student's declared major, graduation date, and grade point average upon graduation. Comparisons of the retention rates for these students were made with university-wide retention rates after four, five, and six years. Retention rates for students enrolled in the counseling course were better than the university-wide retention rate and better than overall college retention rates in the region.

It was concluded that offering orientation and counseling courses similar to the one described in this study increased the retention rates for beginning college students who took them.

ABSOLUTE VERSUS TENTATIVE INTERPRETATIONS: MEDIATING EFFECTS OF CLIENT LOCUS OF CONTROL

Craig S. Cashwell and Amy L. Skinner,
Mississippi State University

Scholars have suggested that counselors can provide interpretations in an absolute or decisive manner, or in a more questioning and tentative manner. While the empirical evidence for the differential effectiveness of tentative versus absolute interpretations is mixed, training put forth in textbooks on counseling skills tends to emphasize the effectiveness of tentative interpretations.

In the current study, the mediating effects of client locus of control, varying from a more internal focus to a more external focus, were considered for two analogue formats (absolute and tentative interpretations) on measures of perceived session depth and smoothness, and perceived counselor expertness, attractiveness, and

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trustworthiness. Crossed on level of locus of control, 120 participants were randomly assigned to one of two videotaped treatment conditions: absolute or tentative interpretation.

Results indicated important implications for counseling practice and future research on the use of interpretations.

THE RELATIONSHIPS AMONG TIME MANAGEMENT BEHAVIORS, STRESS, AND GRADES OF EDUCATION MAJORS

Irvin G. Esters and Ellen F. Castellanos,
The University of Southwestern Louisiana

Teachers' management of their time and their response to stressors inherent to their career choice has been a popular topic in the literature for some years. Little work, however, has focused on the quantification of time management or the multifaceted nature of stress. The present study described the relationships among time management, stress, and grade point averages of students enrolled in education courses. Several surveys, including a prevalidated instrument that measures behavior associated with good time management, a measure of two dimensions of stress, plus high school and college cumulative GPAs, were administered to students enrolled in teacher education during the fall term, 1998. Results suggested significant relationships among the dependent variables. Additional results of regression analyses suggested that time management behaviors were significant predictors of stress and grade point averages. Results of the present study were consistent with studies completed with other populations. The authors discussed the results with respect to the role of time management in the preparation of teachers and job/school performance.

2:00 p.m.-2:50 p.m.

MATHEMATICS EDUCATION

(Discussion Session) Pontalba Salon

PRESIDER:

Dennis C. Zuelke, Jacksonville State University

A COMPARISON OF THE EFFECTIVENESS OF APPLIED AND TRADITIONAL MATHEMATICS CURRICULUM

Stanley L. Lightner, Mississippi State University

The quasi-experimental study used the two group pretest/posttest design to investigate the comparison of the acquisition of mathematic skills between General Mathematics students and Applied Mathematics 1 students.

In the 1994-95 and the 1995-96 school years the Generalizable Mathematics Skills Assessment was administered to General Mathematics and Applied Mathematics 1 students as both the pretest and posttest to measure the gain in generalizable mathematics skills. During the study, 151 subjects were tested in three rural Oklahoma comprehensive secondary schools to provide data for the study. The research question was, Are there significant differences in the gains in the total mathematics scores, in the calculation of whole numbers, fractions, decimals, percentages, mixed operations, measurements, or in the estimation of mathematics answers between the students who completed General Mathematics and the students who completed Applied Mathematics 1 as measured by the Generalizable Mathematics Skills Assessment instrument?

Based on the analysis of the data compiled in the study, the researcher found significantly higher gain scores by the Applied Mathematics 1 students when compared to the General Mathematics students for the total instrument and the whole number, fraction, decimal, mixed operation, measurement, and estimation sections of the instrument. There was no significant difference in the gain score between the groups in the percentages section. It was concluded that the contextual approach used in Applied Mathematics 1 was as effective, or possibly more effective, as the traditional teaching methodology used in General Mathematics.

Because of the statistically equivalent or superior scores by the Applied Mathematics 1 students, Applied Mathematics 1 may be substituted for General Mathematics without a loss of learning.

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**PROFESSIONAL DEVELOPMENT OF MATHEMATICS: TEACHERS
USING EVERYDAY MATH CURRICULUM**

Gypsy Abbott, Anthony Green, and Charles Calhoun,
The University of Alabama at Birmingham

The mathematics skills of U.S. students continue to be at the low end of the international spectrum according to the Third International Assessment of Mathematics (1997). One reason for the poor math skills of students has been reported to be the less than adequate math skills of their elementary school teachers. To address the problem, the Birmingham Public Schools has obtained funding from the National Science Foundation under the Local Systemic Initiative to provide professional development for implementing the Everyday Math program for all K-5 teachers in the system. The Everyday Math curriculum is based on "best practice" research, using hands-on activities and a curriculum spiraling approach to introduction of math concepts.

Eighty-four teachers participated in professional development activities during the 1997-98 school year. Observations were conducted with a random sample of IO teachers who had not yet participated in the program (baseline data) and a convenience sample of IO teachers who had already attended the training. Observers were trained by Horizons Research, the NSF contractor for the evaluation. The observers obtained interrater reliability with the standards set by Horizons. The observation protocol addressed use of teaching strategies, use of classroom materials, classroom environment, and potential level of conceptual growth for students.

Comparisons of the two sets of observations indicated that the majority of untrained teachers used only a traditional textbook approach and also exhibited errors in mathematical concepts taught. These phenomenon were not observed in the group of trained teachers. Further, strategies used by trained teachers appeared to create a positive environment and a positive attitude toward math by students. The majority of trained teachers, as compared to untrained teachers, provided classrooms that promoted the achievement of all students. Implications for future staff development were discussed.

**EFFECTS OF THE INTERSPERSAL TECHNIQUE IN A COMPUTER
MATH ASSIGNMENT FOR INPATIENT ADOLESCENTS**

Gregg A. Johns, Mississippi State Hospital

Adolescents with emotional and behavioral problems may choose to exhibit disruptive and off-task behaviors as opposed to completing academic tasks. The purpose of the current study was to examine the effects of interspersing brief and easy math problems in one of a choice of two concurrent computer math assignments on assignment preference in inpatient adolescents.

The participants in the study were three adolescents receiving treatment for emotional and behavioral problems in an acute care inpatient hospital unit. The participants completed daily 15-minute computer math assignments for approximately one month. The math assignment consisted of a concurrent choice of math problems located in a flashcard format at the left and right computer screen. The assignment consisted of a choice of target problems, 2x2 multiplication problems, (control choice) vs. target problems with easier problems (1x1) interspersed after every two target problems (experimental choice). Participants chose one of the presented problems and entered an answer and received accuracy feedback. Problem choices were randomly generated per session.

An A-B-C-B multiple-baseline across subjects experimental reversal design was used for the study. The independent variable was the presence of the experimental math assignment on the left or right computer screen. The dependent variable was the percentage of trial time allocated to the left screen problem choice in accordance with previous matching law research. Treatment phases consisted of the experimental problem choice appearing on either the left or right screen. Phases were reversed upon achieving stable response trends. Data were analyzed visually for trends.

Results indicate initial participant preferences for the experimental assignment, between phases, consistent with previous matching law research. Although treatment effects were not robust with repeated

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measurement, discussion focuses on future considerations of contingent reinforcement, in conjunction with the interspersal technique, in the maintenance of treatment effects consistent with previous matching law research.

2:00 p.m.-2:50 p.m. STATISTICAL METHODS (Discussion Session) Ursulines Salon

PRESIDER: James E. McLean, The University of Alabama at Birmingham

ORTHOGONAL VERSUS OBLIQUE FACTOR ROTATION: REVIEW OF THE LITERATURE REGARDING THE PROS AND CONS

Kevin Kieffer, Texas A&M University

Factor analysis has been characterized as being part of the heart of the score validation process. Indeed, until the fifties, some psychometricians considered "factorial validity" to be one of the then-recognized major classes of score validity.

In virtually all applications of exploratory factor analysis, factors are rotated to better meet Thurstone's simple structure criteria. Two major rotation strategies are available: orthogonal and oblique rotation. This paper reviewed the literature regarding the numerous rotation options available in factor analysis, and in particular presented the pros and cons of various analytic choices.

In general, oblique rotation, which yields correlated factors, requires the estimation of more parameters than does orthogonal rotation. This means that oblique structures will usually better fit the sample data, but the solutions are somewhat less parsimonious and therefore somewhat overfit the sample and tend to generalize less well to future samples. On the other hand, constructs are rarely taken to be perfectly uncorrelated, and so oblique solutions may better honor the nature of reality. Some guidelines or rules are offered for resolving these issues in given studies so that appropriate rotation methods can be selected.

APPLICATION OF THE GENERALIZED LINEAR MODEL TO PRE-ENGINEERING STUDENT SUCCESS

Frank R. Lawrence, The University of Alabama at Birmingham,
and Gerald Halpin and Glennelle Halpin, Auburn University

The most frequently used model for analysis of social science data is the linear model. The linear model assumed the conditional residuals are normally distributed. However, this may not be realistic for many situations encountered in social science research. In social science research, the conditional residuals often are not normally distributed, thereby biasing the test statistics.

The study begins with an explanation of the generalized linear model. The explanation is used to extend the generalized linear model methodology for use in a hierarchical data set. Subsequently, the hierarchical generalized linear model is applied to the study of pre-engineering student performance at a major southeastern university. The study demonstrates the methodology by analyzing students' success in their quest for admission to the college of engineering. Student success is gauged at the end of their second year. At the end of their second year, either a student is admitted to the college of engineering or he or she is not. Admission is based on student GPA.

This study consisted of the 1991 to 1995 pre-engineering entering classes (N=3,000). The classes were made up of students with multiple demographic differences. Two of the more interesting demographic differences were ethnic background and gender. In addition, differences associated with year of enrollment were considered. The hierarchical generalized linear model used time and demographic information to model student success as measured by GPA. The model was built using a randomly-selected portion of the data then validated on the remaining cases.

Following the demonstration of this modeling technique, tentative conclusions were put forward. The findings may prove useful to the college of engineering's leadership.

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ANCOVA WITH INTACT GROUPS: DON'T DO IT!

Robin K. Henson, Texas A&M University

Educational researchers are rarely able to conduct ecologically-realistic, true experiments using random assignment. When we ask Mikie's parent for permission to study a new educational intervention using a true experiment, the parent is all too often likely to respond that such experimentation sounds good, but that such research should be done with little Susie. And when Susie's parent responds similarly, the researcher is left with many parents supporting the notion of clinical trials of educational interventions, but no subjects.

Some researchers attempt to escape restrictions on true experimentation by invoking "statistical controls" to purportedly mimic the results that would be obtained from real experiments. These statistical procedures are all related to each other and go by various names, such as analysis of covariance (ANCOVA) and partial correlation. Though many of these statistical controls date back to the beginning of the century, most of the corrections have not enjoyed especially wide use in journal articles. Analysis of covariance (ANCOVA), for example, has been used in about 4% of the recently-published research. However, dissertation authors appear to be appreciably more interested in using statistical correction methods. Some academic cultures have inculcated a misperception that statistical corrections can "save" a shoddy experiment.

This paper explained how ANCOVA and related statistical corrections work, and discussed difficulties with the use of these corrections under certain circumstances. Small heuristic data sets were employed to illustrate when ANCOVA can and can not be correctly used in educational research. In the main, ANCOVA can usually be correctly used with randomly- assigned groups, but may not be needed here. When groups are not randomly assigned, ANCOVA often can not be correctly employed (i.e., paradoxically, ANCOVA often can not be used when "correction" is most needed).

2:00 p.m.-2:50 p.m. SCHOOL VIOLENCE (Discussion Session).....Beauregard Salon

PRESIDER: Beverly M. Klecker, Eastern Kentucky University

**VIOLENCE IN OUR SCHOOLS: A REVIEW OF RECENT REPORTS IN THE MEDIA
AND INTERVIEWS WITH RECENT GRADUATES MAJORING IN EDUCATION**

Jerry Brooksher Gee, Nicholls State University

As recently reported by The Associated Press, there have been eight major acts of violence committed in the schools of our nation since February 1996 that resulted in the death of students. Six of these incidences occurred during the first six months of 1998. Unlike acts of violence in the seventies and eighties in inner-city schools in large metropolitan areas, the majority of these occurred in relatively unlikely peaceful settings.

The purposes of this study were (1) to review current reports in the media concerning violence in our schools, and (2) to interview recent graduates from secondary schools, now majoring in education, to gain insight regarding acts of violence they had either been aware of or actually observed.

A review of reports in the media reflected drastic social problems. Legalities that often appeared made reference to court decisions concerning students' rights and responsibilities. Citations regarding actions of procedural due process, standard interpretations of student suspension and expulsion, and schools with "zero tolerance" for violence were also reviewed.

The second part of the study contained interviews with 60 undergraduates during the fall of 1997 and spring of 1998. Sixty percent (36) of those responding had graduated from secondary schools since 1994. Eighty percent (48) had either observed or been aware of acts of violence. Eighty percent (48) of these acts of violence had occurred between students, 35% (21) had been committed against teachers, and 10% (6) were against administrators. The respondents' descriptions of these violent conflicts reflected a much stronger degree of severity among the more recent graduates of the late nineties than the earlier graduates.

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PRETEENS' PERCEPTIONS OF VIOLENCE, SCHOOL SAFETY, CONFLICT AND RESOLUTION, AND SEX-ROLE STEREOTYPES

Yveta George and Joel Keiter, Nova Southeastern University; Glennelle Halpin and Gerald Halpin, Auburn University; and Donna Dagnese-Pleasants, Florida Atlantic University

Rising school violence has become a serious national concern prompting researchers to engage in studies of the problem. Reported herein are results from one such study designed to assess preteens' perceptions of violence, school safety, conflict resolution, and sex-role stereotypes. Also considered were gender differences in these perceptions.

A 25-item questionnaire was administered to 327 third-, fourth-, and fifth-grade students. Although preteens (Boys--N = 151; Girls--N = 176) saw boys as more violent than girls, they generally did not approve of violence on TV or think that violence "proves that you are tough." Girls were significantly less supportive of violence than boys. School was not viewed as a safe place--over half reported having had something stolen there. Feeling safer in teacher-supervised activities, many of these preteens did not feel safe on the way to/from school, in the restroom, or in before and after school programs. More so than girls, boys reported that they did not feel safe on the way to and from school. Encouraging was the conflict resolution strategies reported. Generally well over half of the preteens would try to talk out or mediate the conflict with girls tending to do so more than boys. However, about 20% would hit or call the other person a name when mad, boys showing a greater tendency to do so than girls.

Results from this study add to our understanding of violence and school safety--or lack thereof--as seen through the eyes of the children. While some positive views emerged, much remains to be done to reduce violence and make schools a safe place.

DETECTING SCHOOL VIOLENCE

Connie A. Jones, Middle Tennessee State University

Violent acts committed by students at public school have escalated. They have been directed at administrators, faculty members, staff members, and other students. This paper was designed to investigate the violent occurrences that result in a police investigation. It further sought to identify and define the type of violent occurrences as well as what was being done to deter school violence.

The study revealed that little effort has been expended to track levels of school violence or maintain statistics. No federal or state agency, or department, is required by law to track incidents of school violence or maintain statistics. Individual crimes have been recorded for selected years. Incidences of school violence have received increased press attention that may result in copycat crimes. The growing numbers of students with emotional disturbances and social maladjustment have also been suggested as an implied cause.

Various programs have been initiated that are designed to deter students from committing violent acts. Zero tolerance programs have sprung up across the nation. Many variations of violence prevention programs exist. Public school systems have designed emergency plans to be implemented if a violent act involving a weapon occurs at their schools.

The final aspect of this investigation centered on the effectiveness of the violence prevention programs in place in American schools. Many of the programs in use in public schools have not been available long enough to have had any effect. While the predictive value is high and reports have declined in some cases, there is no hard evidence that the programs themselves have been the actual cause of the decline.

2:00 p.m.-2:50 p.m. TEACHING AND LEARNING (Discussion Session) Cabildo Salon

PRESIDER: Jim Flaitz, University of Southwestern Louisiana

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UNDERSTANDING: RECONSIDERING THE U-WORD OF INSTRUCTIONAL DESIGN

Debora L. Adler, University of Central Arkansas

Accepted methods of instructional design, such as those of Gagne, Briggs, and Wagers, have been promoted for both training and education. These methods have emphasized -- even valued -- behavioral outcomes over cognitive understanding. They have focused on the transmission of procedures. The purpose of this literature review was to inquire whether this focus is appropriate in higher education, to look at approaches to instructional design that have modified this focus, and to consider the relevance of those approaches to the development of courses for preservice teacher education.

While some instructional designers have characterized declarative knowledge as rote memorization, several models of knowledge representation have suggested that concepts exist as declarative memory structures. Damasio's autoradiographic imaging studies of the brain supported this conclusion. Means demonstrated that rote learning was not restricted to declarative information. She used the term "brittle procedures" to describe procedures that, lacking meaning, broke down in the face of change. Anderson demonstrated that specific skills were acquired by applying general strategies to a declarative knowledge base. Therefore, instructional designers must give more attention to declarative memory structures.

Attention to declarative knowledge in instructional design methods appears to have increased since 1990. Instructional design texts by Brien and Eastmond; Leshin, Pollock, and Reigeluth; and Merrill offered methods that focused more than earlier texts on declarative information. There is a need to study the effects of these design models on the flexibility of preservice teachers' performance.

It has long been taboo to write an instructional objective that specifies that students will "understand" a concept, but to demand behavior without regard to understanding may be a much bigger mistake. Incorporating declarative knowledge in instructional design may better prepare preservice teachers.

**DO TIME PRESS, STIMULUS, AND CREATIVE PROMPT INFLUENCE
THE DIVERGENT PRODUCTION OF UNDERGRADUATE
STUDENTS? YES, YES, AND NO, NOT VERY MUCH**

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

Previous studies have indicated that originality scores in creativity tasks are sensitive to time press, though most have used single-response outcomes. This study examined the influence of time press, specific stimulus, and type of creativity prompt on fluency and flexibility scores of 75 undergraduate students.

Participants were predominately female (84%), with a median age of 21.0 years ($SD=4.0$). About 25% were African American, and 67% were juniors or seniors. Three stimuli, or tasks, were administered, in three time allotments (2.5, 5.0, and 7.5 minutes), counterbalanced with three types of prompt (generate as many responses as possible, as many different types of responses as were randomly assigned to combinations). Dependent variables were fluency (number of responses) and flexibility (number of classes of response). Multivariate and univariate analyses of variance were run at the .05 level.

The results suggested that time press has a strong ("large" ES), and typically linear, influence on both mean fluency and flexibility scores. Increasing the amount of time allotted also increased the variability of fluency and flexibility scores. When scores were adjusted by time allowed, a statistically significant multivariable difference across stimuli was observed for flexibility $F(2, 73) = 4.85, p = .011$, but not for fluency scores. Prompts were found to have had very small and nonsignificant effects. Performance on the second of the three tasks did not differ significantly based on whether the time allowed for tasks one and two was a longer/shorter or shorter/longer pattern.

Implications for practitioners included: (1) divergent production is largely a linear function of time, (2) stimulus matters, (3) simple prompting to adopt a certain response style appears not to influence fluency or flexibility scores, and (4) previous task times allowed seem not to affect subsequent task performance.

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**STRESSED OUT: HOW TO DEAL WITH THE STRESS OF TEACHING
IN TODAY'S PUBLIC SCHOOL SYSTEMS!**

M. Craig Hankins, Consultant

The paper briefly described the problems associated with stress, presented basic findings on how to reduce stress, and discussed implementations of various stress reduction programs. Teaching is listed as being one of the most stressful occupations. Increased responsibility, school violence, and budget cuts are just a few of the stress-inducing situations that a teacher may face daily. The American Institute of Stress studies have shown that 75% to 90% of all visits to primary care physicians are for stress-related complaints, including headaches, backaches, anxiety, depression, obesity, and alcoholism. Stress can have negative effects on every aspect of one's life. Therefore, teachers must find ways to reduce stress levels and must organize their schedules to incorporate stress reduction techniques into their lives.

There are a variety of ways one may deal with the stress that may be encountered on a daily basis. Many adult education or continuing education courses are concentrating on stress reduction techniques. As described in the paper, these techniques may include: maintaining a proper diet, low in caffeine and fats; exercising and practicing various movement techniques, such as yoga and Tai Chi; practicing relaxation techniques, such as meditation and guided imagery; and organizing one's life in a manner to have time for fun activities.

Dealing with stress in an appropriate manner allows one to reserve energy that may be used to serve as a more effective teacher. Teachers should seek out training programs, whether self-directed or other-directed, in order to obtain various techniques that will allow them to manage stress. The paper listed a variety of resources that may provide such programs. Individual, as well as, group activities were discussed.

3:00 p.m.-4:50 p.m. TESTS (Training Session)..... Bienville Room

PRESIDER: Edward C. Drahozal, Riverside Publishing

**TEST SCORES AND SCORE REPORTS: WHAT THEY MEAN
AND HOW YOU CAN (YES, YOU CAN!) USE THEM**

Edward C. Drahozal, Riverside Publishing (IL);
Evangalina Mangino, Riverside Publishing (TX);
and Paula Tharp, Riverside Publishing (MS)

The presentation was based on successful multi-media training sessions used by the authors for various state, large city, and local testing programs. The success of the materials was based on the number of requests for electronic copies of the various sessions.

The use and derivation of scores discussed included the scores most commonly used in school testing programs and with psychological tests: percentile ranks; three developmental scores - developmental standard scores, grade equivalents, and age equivalents; and status standard scores - NCEs and standard scores by age.

The objectives of the session were to provide school personnel and professors of educational measurement with useful information about the interpretation and use of the test scores as well as misunderstandings and misuses of test scores using copies of real score reports that allow for hands-on, interactive learning.

The presentation began with an activity that illustrated the need for norms and allowed for immediate interaction by the attendees. The ultimate goal of this activity was the use of norms to determine relative strengths and weaknesses of individuals and groups. Attendees were provided with copies of reports that they used to determine relative strengths and weaknesses.

These reports were also used to describe and evaluate the nature, usefulness, and possible misinterpretation of all of the scores discussed. The last quarter of the presentation focused on the derivation of the

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scores, discussed common misconceptions about scores, and had the attendees evaluate the value they placed on various types of scores.

All attendees were provided printed copies of the presentation and a disk that could be used in a college course or local district staff-development programs.

3:00 p.m.-4:50 p.m. INSERVICE EDUCATION (Symposium)Cathedral Salon

ORGANIZER: Reid Jones, Mississippi Valley State University and Delta State University

ASSESSMENT OF TEACHER NEEDS IN K-12 RURAL SCHOOLS

Overview

Rural schools differ from other schools along several important dimensions having lower enrollment, lower population density, and lower instructional budgets. Consequently, there is good reason to believe that the needs of teachers in rural areas would differ from needs of other teachers. Identifying and prioritizing needs of these teachers led to the development of a needs assessment and distribution of that survey to teachers in five rural school districts. Results were used to prioritize a service agenda for the next school year.

Overview and Methodology of Rural Needs Assessment

James Reid Jones and Carolyn Anderson, Mississippi Valley State University,
and Gene Hamon and Shalander Adams, Delta State University

A survey of 15 needs plus five demographic variables was distributed to K-12 teachers. Respondents (N=382) returned anonymous surveys. Three broad areas of need were identified: resources, staff development (nontechnology), and staff development (technology). Over all groups of teachers, greatest needs were expressed for (1) more equipment, (2) more staff development on computer software, and (3) more staff development in reading. Twenty-seven of 81 independent inter-item correlations were significant ($p < .05$). Profiles of descriptive statistics were presented for teachers in each of 15 certification areas. Follow-up phone calls to teachers corroborated the results listed here and in the other papers of the symposium.

Needs Assessment Results for Rural Elementary School Teachers

O. Edward Jack, Mississippi Valley State University,
and Leslie Griffin, Delta State University

Elementary school teachers (N=229) were the largest subgroup of respondents. Three need areas were ranked higher by these teachers than other teachers, including: (1) greater need for equipment, (2) greater need for introductory workshops on computer use, and (3) lower need for workshops on Internet use. Results suggested that rural elementary teachers have had less access to computers and were at a more basic level of need than other groups.

Needs Assessment Results for Rural Special Education Teachers

Patricia Black, Mississippi Valley State University,
and Nita Thornell, Delta State University

Respondents (N=56) who were certified in Special Education reported significantly greater needs for Internet workshops than did other teachers. Additionally, classroom management workshops were rated as priorities by this group. It was noted that the geographical region surveyed had an unusually high percentage of special education students. E-mail among these children could add an important social dimension to their education.

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Needs Assessment Results for Rural Science and Mathematics Teachers

Jim Nicholson, Delta State University, and Garfield Burke,
Mississippi Valley State University

Both science teachers (N=46) and mathematics teachers (N=42) rated the need for problem solving and critical thinking workshops higher than did other teachers. Further, science and mathematics teachers rated the need for reading workshops lower than did other teachers. Finally, both groups rated the needs for equipment higher than did other teachers. Possibilities for resource sharing among members of a large consortium of rural districts were discussed.

Technology Needs in Rural School Districts

Hines Cronin, Delta State University, and S. L. Ansah,
Mississippi Valley State University

MANOVA showed that staff development needs in technology-related areas were judged significantly ($p < .01$) higher than were staff development needs in nontechnology areas. Of note was the finding that teachers expressed greater needs for workshops on specific software than they did for workshops on introductions to computer use. Secondary teachers were significantly more likely ($p < .05$) to prioritize Internet training needs. While caution was expressed regarding the view that computers are a panacea for education, they remain a valuable tool that can help bring rural districts closer to being competitive.

3:00 p.m.-4:50 p.m. EDUCATION REFORM (Discussion Session) Gallier Salon

PRESIDER: Rodney W. Roth, The University of Alabama

**CONTRADICTIONS WITHIN A STATE-MANDATED TEACHER EVALUATION
SYSTEM: A HISTORICAL PERSPECTIVE, PERSONAL
REFLECTIONS AND PRINCIPAL INTERVIEWS**

Verdell Lett Dawson, The University of Alabama

The case study examined: (1) the historical background of teacher evaluation processes from early American schooling to the 1990's, (2) personal reflections, and (3) principals' experiences and findings. Supreme questions for the study centered upon local implementation of a state-mandated teacher evaluation system within the elementary and middle school classrooms of a small rural school system in Alabama. The case study's ultimate purpose was to determine whether principals at the grass roots would adhere to the beliefs and practices of the state's valid and reliable research-based system. Simply stated, the overriding question was, Would extensively trained principals follow the state plan, or would they stray from the state plan.

An historical perspective demonstrated a movement from checklists of character traits toward a system that focused on both improved teaching and improved student learning. Reflections revealed that personal, individual experience as a teacher, principal, supervisor of teachers, and coordinator for teacher evaluation suggested that the present evaluation system was a positive reform for Alabama.

The case study revealed that paradoxes/contradictions inherently existed within teacher evaluation. Multi-data sources disclosed an awkward, complex process. Yet, the difficult, awkward process resulted in a more accurate and fair method of assessing how teachers actually effect student learning.

The summary of data sources - (1) a historical perspective, (2) personal reflections, (3) principal interviews - was conclusive. Similar themes emerged despite the variation in instrumentation or data collection. Although imperfect and cumbersome, the reviewed teacher evaluation system offered a better process than previously utilized methods, thus offering hope as one answer to the age-old problem of assessing teacher performance.

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**FORMATTING A PROACTIVE PRINCIPAL PREPARATION PROGRAM
IN RESPONSE TO THE NATIONAL REFORM MOVEMENT
IN EDUCATIONAL ADMINISTRATIVE PREPARATION**

Jack J. Klotz and Larry G. Daniel, University of Southern Mississippi

The publication of *Leaders for America's Schools: The Report of the National Commission on Excellence in Educational Administration* (1988) gave birth to a significant force committed to training programs for the preparation of school principals. Indeed, during the last decade, over 100 studies have been published addressing either philosophical underpinnings and/or specific thematic designs for the training of future school principals. The newly-proposed principal preparation program at the University of Southern Mississippi utilized a highly proactive programmatic design for the training of future school principals to meet the needs for the next millennium as charted by this national reform movement.

This program brings together the following conceptual components of both full-time and part-time student cohort groupings: (1) designated cohort teaching groups assigned specific instructional block delivery responsibilities, (2) joint instructional delivery efforts by professors from the departments of Educational Leadership and Curriculum and Instruction, (3) creation of sequenced instructional delivery blocks, (4) numerous highly interactive field-site clinical experiences, (5) effective utilization and involvement of practitioners as clinical professors, (6) collaborative nomination, screening, and selection of student participants by school district practitioners and university professors, and, (7) the utilization of multiple student assessment strategies, including both traditional efforts in combination with varied authentic assessment components.

This paper provided information and material on the following: (1) a review of the recent literature addressing philosophical and conceptual considerations for principal training programs, (2) a comparison of various existing operational standards expected via the new reform movement in such training programs, (3) a framework for putting into place a sequential strategy for collaborative programmatic review and change development, and (4) the University of Southern Mississippi's proactive answer to the reform movement's call for new and innovative formats in preparing future school principals to be effective instructional leaders.

**STATE-MANDATED REFORM OF PROGRAMS PREPARING SCHOOL
PRINCIPALS: ONE UNIVERSITY'S EXPERIENCE**

Sandra Lee Gupton, University of Southern Mississippi

The primary thesis of this proposed paper was sharing one university's experiences with state-mandated program reform of educational leaders in order to inform, facilitate, and give support to colleagues engaged in similar efforts.

The author, a faculty member and reform facilitator for the department in question, shared its reform experiences through a firsthand, reflective, analytic description of the events leading up to the reform initiative and the department's response to mandated program reform. In addition, key features of the reformed program were abstracted and offered as examples of what today's pedagogical research base suggests are appropriate curricula for the training and education of adults.

The reform processes included: (1) committing to the tasks, (2) collaborating with school districts, graduate students, other departments, other universities, state department personnel, and intra-departmental faculty, (3) the selection and inclusion of a nationally-reputable team of consultants to assist with the reform process, and (4) the identification, formation, and facilitation of working teams to develop the program.

Key features of the new program are: (1) student cohort enrollment, (2) sequenced, integrated, block scheduling, (3) team teaching, (4) more reliance on a problem-based curriculum, (5) mentors in the field assigned to students in their first semester, and (6) a year-long, personalized internship.

In the final analysis, conclude Whitaker and Moses, restructuring is a reinvention of the culture of schooling, a rethinking of taken-for-granted assumptions, and a quality improvement effort that refuses to be deterred by the past. It is nothing less than mental and emotional turmoil (1994, p. 158). The researcher's firsthand description and attempt at an objective analysis of the department's experiences with imposed reform and the

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innovative program that was developed should contribute to the field's understanding of the movement in this country to reconceptualize university programs preparing school administrators and of the emotional, physical, and intellectual rigor of such an undertaking.

**3:00 p.m.-4:50 p.m. MINORITY ISSUES AND DIVERSITY
(Discussion Session)Pontalba Salon**

PRESIDER: Burnette W. Hamil, Mississippi State University

COLLEGE FACULTY OF DIVERSE RACIAL/ETHNIC BACKGROUNDS: HOW DO STUDENTS EVALUATE THEM?

Anisa Al-Khatib and Kenneth T. Clawson,
Eastern Kentucky University

The purpose of the study was to examine how college faculty of diverse racial/ethnic backgrounds were rated as teachers by their students. The study presented a qualitative analysis and interpretation of a pilot study at a mid-size state university.

Student evaluations of faculty are a very important part of the collegiate culture. Most faculty are regularly evaluated using a variety of instruments and approaches. Many incorporate some type of structured or unstructured open-ended responses. These are utilized for self improvement and professional growth. Evaluations are also used to make summative judgments regarding promotion, tenure, and merit pay. They are also used to hold faculty accountable.

Although there are many factors that influence students' evaluation of faculty, some are particularly important. Communication is critical. Some communication theorists speak of a style-specific communication theory. Piaget's schema development suggests that students may approach a teacher (particularly if she/he is seen as different) with preconceived prejudices or biases toward a faculty of different race/ethnicity. They may selectively take the concepts that fit their schema and reject those that do not.

The study constituted a qualitative analysis and interpretations of responses from 475 students. They were predominantly white Anglo-Americans with approximately two-thirds female. Both undergraduate and graduate student evaluations of faculty who represented similar racial/ethnic backgrounds as the students and ratings of racially/ethnically diverse faculty were studied. The authors compared the student responses with those from other studies that showed that faculty are perceived differently on several dimensions: communications and clarity, knowledge and use of English, student-faculty relationship, knowledge of subject content and skills, treatment of students, classroom management and organization, and their prejudices and biases.

THE AFFECTIVE AND ACADEMIC BENEFITS FOR MENTORS IN A MINORITY ENGINEERING PROGRAM

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

Examined in this study were peer mentors' comments in journals written during the first quarter of tutoring and mentoring within a Minority Engineering Program at a large land-grant university. Although the journals were established at the beginning of the quarter as a forum for the discussion of the mentors' perspectives on program development and evaluation, the journals also captured mentor growth in the following areas: cognitive skills such as critical thinking, and affective change in confidence and sense of purpose.

Eighteen African American peer mentors (5 females, 13 males) participated in the study. During the initial mentor training session, the participants were given journals and were asked to respond in writing to a weekly prompt eliciting their perceptions of the program and its impact. Among the topics included in the prompts were the mentors' understanding of their roles as mentors and tutors, program goals, staff communication, and descriptions of change and growth noted within the freshman participants in the program. At the end of each week,

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one of the researchers would read and respond to mentor comments in order to initiate an open discussion through the journal writings.

At the end of the quarter, the comments within the journals were organized and coded into examples or descriptions of mentors' cognitive and affective growth. Conclusions were drawn based upon the pattern of these comments. The findings of the study suggested that, although the upperclass peer mentors were not the target population of the Minority Engineering Program, they benefited both academically and affectively from program involvement. Illustrative comments from the mentors' journals were provided to substantiate this conclusion and to show areas of mentor growth.

AFRICAN AMERICAN STUDENT FRESHMAN YEAR EXPERIENCES IN THE COLLEGE OF ENGINEERING FOR THE 1996 ACADEMIC YEAR

Bernadette Maria Chapple, Auburn University

The study examined African American pre-engineering students during their freshman year matriculation to discover: (1) why students choose to persist as an engineering major and (2) why students choose to leave engineering as a major. Approximately 17 students participated in this study that was both quantitative and qualitative in design. The data in the research assisted both the College of Engineering and the university in understanding the educational experiences of the matriculating African American pre-engineering student.

In an effort to provide reasons and rationale about why African American engineering students choose to stay in this major and why other African American engineering student majors choose to leave, the researcher examined an undergraduate engineering program at a land-grant institution in the south. The College of Engineering at this institution was able to institute several programs designed to increase the number of African American students choosing engineering as a major.

Although initiatives for pre-collegiate students are important in the retention of African American students, it is the retention of those students once accepted into a program of study that the institution focuses on most. It was the intent of this study to offer a better understanding of such a retention initiative. Because of the decline of African American students pursuing majors in science and mathematics in general and in engineering in particular, an important research concern has been to offer more insight into the experiences of the freshman engineering student in an attempt to develop fundamental reasons about why students remain in engineering and why some students leave.

3:00 p.m. - 3:50 p.m. RESEARCH METHODOLOGY (Discussion Session) Ursulines Salon

PRESIDER: Linda F. Cornelious, Mississippi State University

THE CAREER ASSESSMENT DIAGNOSTIC INVENTORY: A SCORE RELIABILITY AND VALIDITY STUDY

Sherry A. Vidal-Brown and Bruce Thompson,
Texas A&M University

Career decision making is an important aspect of most people lives. At some point in time they must decide what types of jobs to seek and what education or training to pursue related to their career choices. Many individuals struggle with these decisions and seek the advice of school counselors. Although career decision making is an integral part of individual development, understanding the process of career decision making has perplexed researchers in the behavioral sciences for over 90 years.

Many empirical studies of the career-related decision making have been conducted, but results are often contradictory. One emerging finding in this literature is that the process is multidimensional, and that therefore relevant assessment instruments must also be multidimensional. Unfortunately, few relevant multidimensional assessment instruments exist.

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The present study reported on the development of a multidimensional career decision-making assessment tool that measured six aspects of this decision-making process (e.g., decision-making anxiety, family perceptions, emotional independence). The instrument was administered to 364 undergraduate students. The factor structure of the measure was as anticipated. The alpha coefficients for the scales ranged from .83 to .94. The measure may prove useful in assessing the conflicts people perceive as they attempt to make important career decisions.

**A STUDY OF THE CONSTRUCT VALIDITY ASSOCIATED
WITH THE DIGIT SPAN SUBTEST OF THE WAIS-III**

Jason E. King and Mike C. Ramsay,
Texas A&M University

The Wechsler adult intelligence batteries have traditionally been considered psychometrically sound instruments for measuring the general factor of intelligence, when the construct is assumed to be composed of verbal and performance composites. While the utility of the batteries is generally accepted, the validity of inferences associated with certain subscales has been questioned. In particular, Digit Span has been a source of controversy. Nonetheless, the WAIS-III retains this subtest virtually unchanged from previous editions.

The present study addressed validity issues related to Digit Span. Given that this measure has been included in almost every major intelligence battery, it seems likely that researchers would be largely in agreement about the construct or constructs that Digit Span measures. Such is not the case. Some researchers treat the two components of the subtest separately, considering them to be measures of different abilities or characteristics. Others, including the authors of most of the factor analytic studies, combine Digits Forward and Backward, implicitly assuming no substantial incongruity in measuring the underlying construct. The two approaches have very different implications for clinicians, psychometrists, and neuroscientists.

The factor structure of WAIS-III Digit Span scores was utilized, as well as their correlations with other instruments, in an examination of validity issues. These findings, together with conclusions reached by other researchers who have studied Digit Span, were then assimilated into a logical framework for interpreting the subtest. In our view, the two components of the scale, Digits Forward and Digits Backward, should be treated as factorially distinct. We viewed the first component as measuring sequential processing, and the second, simultaneous processing. Both components measured auditory memory to a degree. In addition, Digits Forward and Backward scores declined with low motivation, inattention, anxiety, brain damage, and the like, thereby providing a measure of these important characteristics as well.

**STABILITY AND INTERNAL CONSISTENCY RELIABILITY OF PERSONAL
PREFERENCES SELF-DESCRIPTION QUESTIONNAIRE (PPSDQ) SCORES**

Bruce Thompson and Randolph C. Arnau, Texas A&M University

The Personal Preferences Self-Description Questionnaire (PPSDQ) was developed to measure personal preferences regarding Jungian psychological types. Instruments in this area are among the most popular measures used in education and psychology; the measures are used in matching teaching and learning styles, in individual counseling and family therapy, in team building, in career planning, and in research in these and other areas.

The PPSDQ has been studied in a series of previous studies, which have focused on the concurrent validity, factor structure, and internal consistency reliability of PPSDQ scores. However, the test-retest reliability of PPSDQ scores has not been previously investigated. The present study was conducted to fill this void in the literature.

PPSDQ data were collected from 143 students at a large southern university on each of two occasions, approximately seven to ten days apart. The two data sets were first analyzed separately to yield Cronbach's alpha for each of the four PPSDQ scales: extraversion-introversion (EI), sensing-intuition (SN),

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thinking-feeling (TF), and judging-perceiving (JP). The scale score alpha coefficients ranged from .823 to .886. Test-retest reliability coefficients were also computed, and these ranged from .779 to .882.

The results suggested that previous studies employing the PPSDQ can be interpreted with less caution. The results also suggested that the PPSDQ has sufficient psychometric strength to be potentially useful in future research.

3:00 p.m. - 3:50 p.m. TEACHER EDUCATION (Discussion Session)Beauregard Salon

PRESIDER: Dennis Zuelke, Jacksonville State University

SERVICE LEARNING: PERCEPTIONS OF PRESERVICE TEACHERS

Rebecca McMahon, University of Scranton

Service learning is defined by the National and Community Service Trust Act of 1993 as ". . . a method under which students . . . learn and develop through active participation in thoughtfully organized service that: is conducted in and meets the needs of the community and is coordinated with a . . . community service program; helps foster civic responsibility; is integrated into and enhances that academic curriculum of the students . . . and includes structured time for the students to reflect on the service experience." Efforts are currently being made across the country to strengthen the connection between student's service learning experiences and course content at the university level. This study used qualitative data for gaining insight into preservice teachers' experiences and perceptions related to service learning.

Subjects were undergraduate students (n = 60) enrolled in two sections of the course, Early Childhood Education. Each student chose an organization serving children/adolescents with which to work and volunteered for a minimum of 10 hours. Students reflected on their experiences by keeping dialogue journals and participating in two reflection sessions. At the end of the semester, students contemplated the community service they completed by responding to seven open-ended questions in the form of a narrative, reaction paper. Reflection papers were individually analyzed by two researchers for the purpose of identifying patterns or similarities in four broad areas of interest: overall opinion, attitudinal changes, learning that occurred, and the impact on academic life at the university. Following a collaborative analysis of the researchers' notes, a synthesis of findings was compiled.

Data analysis revealed an overwhelmingly favorable perspective toward service learning. Academic benefits cited ranged from clarifying one's choice of major to observing or applying information present in university courses. Additionally, participants communicated learning outcomes in regard to one's self, the community, and children/adolescence.

HELPING PRESERVICE SECONDARY TEACHERS UNDERSTAND THE RELATIONSHIP BETWEEN PEDAGOGICAL THEORY AND CLASSROOM PRACTICE THROUGH REFLECTIVE WRITTEN REPORTS

David M. Lund, University of South Alabama

Perceptions of preservice, secondary teachers regarding a curriculum designed to help them understand relationships between a content area reading course's pedagogical knowledge and the teaching practicalities in real educational settings by writing about the included field experience, rather than the usual testing of course knowledge with paper and pencil, were examined to determine preservice teachers' perception of: (1) the relevance of the written assignments to the course, (2) the appropriateness of the work load required, (3) whether they utilized the learning opportunities the course provided, and (4) the overall value of the course to their learning experience.

During the second year of the curriculum's implementation, 175 preservice teachers enrolled in six sections of the class. All were to complete an anonymous, general course survey at the term's end, consisting of a short section requiring demographic data and 32 questions--28 required a Likert-scale, numbered response

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with space provided for comments, and four were open ended. Four of the 32 questions--three Likert-scale and one open ended--were relevant to the preservice teachers' perceptions of the field experience and associated assignments; 142 of 175 surveys collected were usable; 33 were rejected because of incompleteness or because they came from special education teachers.

Each Likert-scale question was analyzed by computing the mean of the numbered survey responses. Written comments and responses to the open-ended question were grouped according to their specific nature--positive, negative, or neutral. Conclusions were drawn from the mean Likert-scale scores. Comments and open-end question responses were used to verify Likert-scale conclusions. The findings suggested that written reports may have been an effective alternative to standard paper and pencil tests and an effective method to help students understand relationships between university pedagogy and real classrooms.

**THEORIES OF THEORY AND PRACTICE: REFLECTION
IN ELEMENTARY PRESERVICE TEACHERS**

Sunya T. Collier, Georgia State University

The purpose of this study was to describe and analyze preservice teachers' reflections about how children learn, and, therefore, what teaching should look like in elementary school classrooms. This qualitative inquiry was aimed at documenting preservice teachers' understanding of how practice and theory develop hand-in-hand. Grounded in John Dewey's notion of reflection as a scientific process of problem solving, this research capitalized on reflection as experimentation. Reflective thought became the essential component of the dynamic relationship between theory and practice and the social constructivist vision of knowledge.

Four elementary preservice teachers enrolled in a foundations of education course were selected using intensity case sampling. Only those who had experience with reflective thought in previous education courses were selected. The primary research method used was the interview. During videotaped focus group and individual interviews, participants evaluated the nature of the problem-solving activities they had designed and implemented and also interpreted the work of their peers. Preservice teachers' written reflections and the researcher's field journal provided supporting documentation.

Seven themes emerged from a cross-case analysis. Three themes, including learning for understanding, children's natural learning theories, and experiential learning, were indicative of preservice teachers' emerging theories about learning and instruction. Four supporting themes, including self-awareness, foundations of education, written reflection, and social reflection, revealed the nature and value of preservice teachers' reflective thought throughout the study.

Conclusions from this study revealed the importance of dialogue, community, and reflection as essential and inseparable components for the development of self-knowledge, knowledge of how children learn, and the development of instructional strategy. Several implications for teacher educators were also made. These included acknowledging preservice teachers' incipient theories about how children learn, extending opportunities for multiple levels of social reflection, using videotape as a reflective tool and, finally, emphasizing the reciprocal relationship between theoretical course content and practical experience.

3:00 p.m. - 3:50 p.m. TECHNOLOGY (Discussion Session) Cabildo Salon

PRESIDER: Gahan Bailey, University of South Alabama

INTEGRATING TECHNOLOGY INTO TEACHER PREPARATION PROGRAMS

Leroy P. Metze, Western Kentucky University; Carl Martray, University of Southern Mississippi; David Eakles, Lost River Elementary School (KY);
and Tim Murley, North Warren Elementary School (KY)

Two million new teachers will be hired over the next decade. Will these new teachers be comfortable and skilled in using technology? What will it take to transform schools of education so that faculty

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feel comfortable with technology? In spite of the efforts of several national organizations, many higher education faculty members are slow to embrace the use of technology and do not provide a positive model for technology integration.

During the spring of 1992, a partnership involving a college of education, a major educational software corporation, and three local school districts was formed for the purpose of developing an implementation model for the integration of technology into teacher education. Each of the major partners has a somewhat unique vision: the university's vision is to provide the best preservice and inservice instruction so that new and experienced teachers are capable of the highest quality instruction; the public schools' vision is to have teachers who provide the highest quality instruction and who individualize instruction so that every student's educational needs are met; and the corporation's vision is to provide the best tools for instructional technology. This partnership is consistent with each partner's vision and an overall vision of breaking down the barriers to integrating technology into teacher education programs and using technology to increase the access to and level of education for all students.

During the partnership, several important events have taken place. The teacher education curriculum has been restructured, and students leave the institution prepared for the challenges they will face in their new assignments, including the creative use of instructional technology. The school partners have reported that their students have benefited from the partnership. For example, one elementary school partner has demonstrated significant gains in scores on state and national tests over a three-year period.

GRADUATE STUDENTS' PERCEPTIONS OF TIME SPENT IN TAKING A COURSE BY INTERNET VS. TAKING A COURSE IN A REGULAR CLASSROOM

Lorna J. Gifford, Northwestern State University

The purpose of this study was to determine the actual time required in taking a course via the Internet compared to taking a class in a traditional setting. It also examined learning strategies needed for success in completing a course delivered by computer.

Graduate students completed a course in Research on Curriculum and Instruction taught entirely through a web-based program and e-mail. Of the 16 students (13 females, three males) enrolled in the course, 14 were Caucasian, one was African American, and one was Hispanic. The syllabus and course notes were posted in the web-based program. Students were instructed to read articles in their textbook and respond to given questions each week. They were to post their responses to the questions, read the responses of assigned group members, and respond to their comments. In addition, they were given three outside assignments, including a research paper. At the end of the semester, the students were sent a questionnaire related to their learning experience. Data in the form of open-ended responses were obtained from the students. The responses were content analyzed and grouped in empirically generated categories.

Results indicated that the majority of students responding felt that more time was spent on taking a course via the Internet (55%), while over a third felt that the same amount of time was spent on taking a course via the internet and a course in a regular classroom (36%). Students indicated that self-discipline and self-motivation were necessary to complete a class via the Internet.

Based on these findings, course content and delivery systems need to be evaluated to determine a more equitable way of delivering courses through distance learning. Additional studies should also be made comparing the time required in taking classes via the Internet and taking a class in person.

**4:00 p.m. - 4:50 p.m. PROFESSIONAL DEVELOPMENT
(Discussion Session). Gallier Salon**

PRESIDER: Emma T. Pitts, Southern University

SABBATICAL LEAVE: A CASE STUDY OF PROFESSIONAL GROWTH AND DEVELOPMENT

Julie A. Holmes, Louisiana Tech University
and Lincoln (LA) Parish Schools

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The topic of sabbatical leave in the state of Louisiana brings out a myriad of responses, both positive and negative. The state legislature in recent months has discussed the possibility of denying all forms of sabbatical leave for teachers in the public school systems. The purpose of this paper was to defend the right to and to describe the effects of a sabbatical leave for professional growth and development purposes. The literature on sabbatical leave was reviewed and the results of a case study and the personal reflections of a recent sabbatical taken by the author were reported.

Several major themes emerged as contributing factors to the author's professional growth and development during the six-month sabbatical. Themes that emerged and were addressed in this paper included: (1) presenting topics of study to peers and adults, (2) increasing the use of technology in instruction, (3) developing alternative and performance assessments for use in classrooms, (4) learning from peers, and (5) gaining ideas to use with students upon return to the classroom such as addressing various learning styles and meeting the needs of diverse students.

Although these objectives can, to some degree, be accomplished while teaching full-time, full-time study creates a chance for increasing both the depth and breadth of knowledge. Perhaps the most worthwhile part of the sabbatical leave was being able to pursue these interests consistently while devoting all available time and energy to professional development. Working with peers and other educators on a regular basis also allowed the author to develop a broader view of how what is done in one classroom fits into other instructional and grade levels as well as a deeper understanding of how what is taught to students builds on previous knowledge and supports future learning.

THE STATISTICS AND REALITY: A NEEDS ASSESSMENT FOR FACULTY/GRADUATE ASSISTANT DEVELOPMENT . . . WHERE DO WE GO FROM HERE?

Beverly A. Wallace and Margaret L. Rice, The University of Alabama

In an attempt to improve professional development at its location, a southern university used surveys to conduct a needs assessment of its faculty and graduate assistants (GAs) during the fall of 1997. The discussion in this paper addressed methodological procedures, survey results, and evaluative concerns relating to the major issues arising from the survey results.

One issue involved balancing the interests of faculty with those of GAs. One of the requests for demographic data asked the respondent to identify her or his position at the university. This identification allowed for subgrouping of the faculty into various professional designations, including assistant, associate, and instructor. It also provided for a delineation of GAs into graduate teaching assistants (GTAs) and graduate research assistants (GRAs). The survey utilized Likert-scale items to solicit information on preferred topics for colloquia and foci for discussion groups. The topic choices for colloquia consisted of items within four areas: course management, faculty/student relations, teaching methods, and professional growth. The list of nine discussion group choices included groups to discuss teaching experiences and concerns, the use of technology in teaching, and groups to discuss writing and research projects. Results of the analyses indicated that the interests of the two major groups, faculty and GAs, differed in significant ways concerning both colloquia and discussion groups. Significant differences were found among the various subgroups concerning interests in colloquia topics.

Another issue involved discovering which elements the respondents thought, while being important to teaching and professional development, might not be perceived as necessary to a faculty development program. In addition to the colloquia and research interests, respondents were asked to check which items from a list of seven choices they thought should be included in a faculty development program. No significant differences were found between the two major groups.

**4:00 p.m. - 4:50 p.m. RESEARCH IN THE AFFECTIVE DOMAIN
(Discussion Session) Pontalba Salon**

PRESIDER: William A. Spencer, Auburn University

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TRIANGULAR CODING PRISM: AN INSTRUCTIONAL/LEARNING MODEL

Fran Holman, Gahan Bailey, and Paula Bickham, Louisiana Tech University

The Triangular Coding Prism Model for Instruction/Learning presented in this position paper is comprised of three faces. Embedded within each of these faces are the three processes of thinking, doing, and feeling. Thinking, doing, feeling can occur in stages or as an amalgam. Seldom, if ever, does one occur in isolation.

The model includes: (1) sensory encoding - formatting knowledge and skills, determining strategies and methodologies, and creating affective classroom rhythms, (2) meaning decoding - learner's individual regulatory principles with regard to thinking, doing, and feeling, and (3) metaskills transcoding - process observation, reflection and metaphor, and appreciation of ambiguity.

Thinking refers to cognitive processing. Briefly, what teachers consider first for instruction is formatting the content or information to be distributed into receivable packages; this begins in sensory encoding. Everything a student learns, i.e., processes cognitively, enters through the senses. A person's thinking is regulated by individual regulatory principles or language, experience, and feeling.

The instructional content or information will be nothing more than inert knowledge unless students do something with it. Specific methodologies are described, but the import is clear: doing is part of learning.

The third face of the prism is feeling, a frequently under-represented part of teaching and learning. Recent neuropsychological research informs teachers and learners that emotion, i.e., feeling, is paramount to the enhancement of learning or to the impediment of learning.

The Triangular Coding Prism Model, which was presented graphically, is more than a theoretical stance; it provides a pragmatic framework for instruction and learning that can readily be adapted to and beyond the classroom.

**WHAT DOES IT TAKE TO BE EMOTIONALLY INTELLIGENT?
A DIMENSIONAL ANALYSIS**

Gwendolyn L. Hamilton and Judith A. Burry-Stock,
The University of Alabama

Emotional intelligence is defined as the subset of social intelligence that allows one to accurately perceive, assess, and express emotion. It also involves the ability to access and/ or generate feelings when they promote thought. Emotional intelligence includes the ability to understand emotion and emotional knowledge and the ability to manage and/ or control emotions to promote emotional and intellectual growth. Emotional intelligence is explained using four distinct branches. The four branches are organized from the most basic psychological processes to the higher, more complex psychological processes.

The purpose of the study was to determine if the proposed four-factor model fit a data set, or if the data set could be better explained by fewer factors. The data for the analysis were drawn from a sample of college students at The University of Alabama. Approximately 325 students completed a 45-item emotional intelligence inventory.

Using principal component factor analysis and varimax rotation, three different solutions were found with three, four, and five factors. After careful examination of the content of the items in each factor, the simple structure with four factors was regarded as the best solution. The four factors seemed to be related to self-control, empathy, sensitivity, and self-expression. A reliability estimate was generated for the questionnaire. Cronbach alpha was .7900, and the standardized item alpha was .8036.

MEASURING THE EMOTION QUOTIENT ("EQ"): WHAT WE KNOW SO FAR

Jane E. Finnegan, Texas A&M University

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Since the turn of the century, when Binet conducted his well-known studies of intelligence in France, educational researchers and psychologists have been interested in the measurement of IQ. Of course, even from the turn of the century, heated debates raged regarding the nature of intelligence, and whether it was unidimensional, multidimensional, or primarily unidimensional with some less noteworthy nuance factors also delineating the factor space. Researchers such as Spearman, Pearson, Thomson, and Cattell are associated with these debates.

More recently, however, some scholars have proposed that the emotional content of perception is processed in its own unique fashions. Furthermore, it has been argued that a discrete form of processing, emotional intelligence or "EQ," can be measured. It has been suggested that IQ and EQ are not necessarily related to each other. Finally, it has been suggested that high "EQ" can be at least as important as IQ in some situations, such as performance in certain kinds of careers. For example, children with higher EQ may be more likely to be classroom leaders and to manifest fewer school behavior problems.

The purpose of this paper was to review the nascent literature regarding what was known at this point about EQ. Specifically, the paper reviewed both the psychometric properties or measures of EQ and the findings regarding the development and impacts of higher EQ.

4:00 p.m. - 4:50 p.m. **RESEARCH IN THE SCHOOL**
(Discussion Session) **Ursulines Salon**

PRESIDER: Jerry Brooksher Gee, Nicholls State University

HOW MIDDLE SCHOOL STUDENTS SPEND THEIR TIME OUTSIDE OF SCHOOL: A LONGITUDINAL INVESTIGATION

Lauren Wells, Lauderdale County (MS) Public Schools,
and Jack Blendinger, Mississippi State University

No longitudinal studies providing information on how children spend their time outside of school have been reported in the literature. This study investigated how middle school students spent their time when not in school during a two-year period, 1996-97 and 1997-98. Although many studies have been conducted about how children spend time in school, little is known about children's out-of-school activities and the influence they may have on academic achievement.

Nearly 75 middle school students participated in the study. The subjects' out-of-school activities were first investigated in April 1997 when they were in the fifth grade. The same students were studied again in April 1998 when they were in the sixth grade. The instrument used was specifically designed for gathering information about how children spend their time outside of school from Monday through Sunday. It listed 10 mutually exclusive activities (e.g., watching television, reading, doing homework) and an "other" category, which provided an opportunity for the children to name activities in addition to those listed. An icon accompanied the words for each activity.

To analyze the data collected, the total number of times the children reported doing a particular activity (e.g., watching television) during the week and on the weekend was tabulated. A proportional value was given to each activity by dividing the tabulated total for a particular activity by the total number computed for all activities (including the other category). This process provided an activity index rating that made it possible to make comparisons among activities, from those activities in which the children engaged in the most to those they engaged in the least. The *t*-test was used to determine the level of statistical significance of observed differences between the two years investigated. No differences were found. Children's activity patterns remained constant. Watching television was the most prevalent activity, significantly surpassing reading for pleasure, for both years even though the subjects were involved in an accelerated reading program during the 1997-98 school year.

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**AN ANALYSIS OF THE RELATION BETWEEN STUDENT ACHIEVEMENT
AS MEASURED BY TENNESSEE VALUE-ADDED GAIN SCORES AND
TEACHER ABSENCE EDUCATION, SCHOOL, AND EXPERIENCE**

Marie Miller-Whitehead, Institute for Quality Leadership

The purpose of the research was to determine whether teacher experience, education level, school building assignment, and teacher days absent had a statistically significant relationship with student achievement as measured by the Tennessee Value-Added Assessment System scores in the five core subject areas of language arts, reading, math, science, and social studies.

The target population consisted of teachers in grades two through eight in one Tennessee school system for whom student-teacher records could be matched and for whom value-added scores had been computed. After records were matched, the language arts population was 64 teachers at 14 schools; the reading population was 69 teachers at 16 schools; the math population was 64 teachers at 15 schools; the science population was 59 teachers at 14 schools; and the social studies population was 64 teachers at 15 schools.

Teacher demographic data from personnel records were used to determine values for teacher experience, education level, building assignment, and days absent. Critical F was calculated for these variables, and student achievement gain in reading, language arts, math, science, and social studies using the ANOVA subprocedure of the general linear model. R^2 determined strength of association for each of the variables in the analysis.

School building assignment was significantly related to student achievement in reading ($F = 4.61, p < .001$), language arts ($F = 2.88, p < .01$), and social studies ($F = 4.61, p < .05$). Practical significance of these results was indicated by an R^2 of .56 for reading, .42 for language arts, and .41 for social studies. There was no statistically significant relation between any of the variables in the analysis and student achievement in math or science.

**COMPARISON OF MULTIAGE AND TRADITIONAL STUDENT
ACHIEVEMENT IN A PRIMARY SETTING**

David Holman and Jim Lively,
Arkansas State University

This evaluation examined test results of a group of elementary students in single and multiage classrooms. The Stanford Achievement Test Version 9 (SAT9) and Kindergarten exit assessment scores were used to ascertain the differences in achievement between students in the different classrooms.

This evaluation was comprised of two aspects. Each student's scores on her/his third- and fourth-grade SAT9 were matched. Third-grade scores were used as a covariate for analyzing fourth-grade achievement. A subgroup of students was identified who had been in attendance at the school for their entire educational history. This allowed the impact of the educational environment to be separated from students who entered from other institutions during the four-year timetable incorporated into this study. Both analyses indicated significant higher performance of multiage students.

4:00 p.m. - 5:05 p.m. SCIENCE EDUCATION (Discussion Session) Beauregard Salon

PRESIDER: W. C. Johnson, Mississippi State University

**EXPLORING SPACE: AN EVALUATIVE PORTRAIT
OF ALABAMA TEACHERS**

Sharon H. Harwell and Sandra K. Enger,
The University of Alabama at Huntsville

Wednesday, November 4, 1998

This study evaluated the effectiveness of follow-up professional development for 71 Alabama teachers who participated in the Exploring Space: The Classroom Connection program, summer 1997. This program is a collaborative effort of the Alabama Commission on Higher Education, Alabama State Department of Education, U. S. Space and Rocket Center, The University of Alabama/Huntsville, and the local corporate community. Based on Stake's Responsive Evaluation Model, formative and summative evaluation informed program development and implementation.

In addition to demographic information, teachers communicated their understanding of basic science concepts, their perceptions of classroom science inquiry opportunities for students, perceptions of their science classroom learning environments, and science teaching efficacy beliefs. Teachers also communicated their satisfaction level with content presentation and delivery.

Teachers' mean responses on seven basic premises underlying inquiry-based science showed overall agreement. No significant differences were noted between the 1998 and 1996 follow-up groups of Alabama teachers on the following domains: science attitudes, constructivism, concept development, inquiry science, interdisciplinary connections and assessment, and science standards. A t value of 2.26 indicated a significant difference ($p \leq .05$) between groups in the nature of science domain.

Teachers expressed high science teaching efficacy beliefs and perceived themselves capable of curriculum integration of space science content and activities. Perceptions of the science classroom learning environment and inquiry learning opportunities for students indicated an incongruence between reported teacher practice and exemplary research-based science education. Findings clearly pointed to teacher-driven, science learning environments.

Strong program satisfaction based on participant feedback, coupled with systematic monitoring of science attitudes, knowledge and understanding, and perceptions of science classroom learning environments, proved beneficial to personnel in responding to evolving program needs of teachers. Identified learning needs of teachers were targeted for future program implementation. Challenges for future research and practice were delineated.

TRAINING OF A WILDLIFE HABITAT EVALUATION PROGRAM (W.H.E.P.) TEAM: A CASE STUDY

Randy Cromwell, The University of South Alabama

This study documented the training of one of Alabama's Wildlife Habitat Evaluation Program (W.H.E.P.) teams. The guiding questions for this study were: (1) How do the participants' past histories influence their W.H.E.P. experience? and (2) How does the training of this particular W.H.E.P. team meet the environmental education objectives set by the United Nations at Tbilisi Georgia, USSR?

A case study mode of investigation was used. The participants included three members of the local W.H.E.P. team and the team coach. The researcher's role was a volunteer W.H.E.P. leader. Data came from three to four interviews with each of the study participants. All interviews were in semi-structured format. Observational data were collected during all of the team training sessions and associated activities. Data were entered into a word processor and analyzed with the program, NUD-IST.

Three themes emerged from the data and analysis. First, the participants' had experiences with nature before their W.H.E.P. participation. Secondly, the greater the participants' experiences with nature the less competitive they were in the state W.H.E.P. contest. The third theme dealt with the interrelationships among the objectives for environmental education set at the Tbilisi Conference.

Several assertions were made based on this study. The Alabama W.H.E.P. caters to participants with wildlife experiences. This study indicated that having extensive knowledge of wildlife was not important for successful competition in the state W.H.E.P. contest. W.H.E.P. met the objectives established during the Tbilisi Conference. Even more interesting was the symbiotic relationship that existed among the Tbilisi objectives. Further research efforts suggested from this study were: (1) the application of Stephen Kellert's survey to past W.H.E.P. participants, and (2) a study of the interrelationship of students' classroom participation, knowledge, and awareness of the subject matter.

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

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

This study examined various aspects of elementary science students' achievement, attitudes, and journal writing in conjunction with an Alabama Hands-on Activity Science Program (HASP) kit.

The sample consisted of 47 fourth-grade students in two separate classes within the same elementary school. Each group was taught, by the same teacher, a unit on electricity and circuits following the procedures outlined in the HASP materials. A 15-item test that was included in the HASP kit was administered as a pretest and a posttest. The test consisted of application and knowledge-level questions about electricity and circuits. The researchers developed a 12-item attitude survey that was administered before and after instruction. The attitude survey included items about the science content presented, instructional strategies, use of the HASP kit, cooperative learning groups, and journal writing. The subjects responded to the survey via a modified Likert scale. In addition to the test and attitude survey, subjects were requested to reflect upon their participation by writing in journals. The study lasted four weeks during the spring of 1998.

The achievement test 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 HASP kit and appropriate instruction. However, the results of the attitude survey did not support using science manipulatives as a means of increasing favorable responses towards science education, careers, and journal writing activities. A qualitative content analysis of the students' journals revealed that both the quality and quantity of the reflective writing decreased over the duration of the instructional unit. For example, students drew fewer diagrams and charts towards the middle and end of the unit, and their written summaries shortened into brief, often incomplete statements that contained fewer expressions of reflective thinking with each journal entry.

**HANDS-ON SCIENTIFIC RESEARCH: CONDUCTING GLOBE PROJECT
PROTOCOL TRAINING IN OKTIBBEHA COUNTY**

Burnette W. Hamil, Mississippi State University

With the aid of a Public School Partnership Grant, seven teachers participated in a four-day GLOBE workshop. The project, "Hands-on Scientific Research: Implementing GLOBE (Global Learning and Observations to Benefit the Environment) Project Protocols," was coordinated by three GLOBE trainers.

The GLOBE trainers volunteered their time to serve as facilitators for the workshop and conducted follow-up visits to the schools to offer further assistance. Preservice teachers worked closely with the teachers in the schools while each enhanced their own GLOBE skills in becoming more familiar with the implementation procedures of the protocols.

At the completion of the workshop, teachers responded to the GLOBE Workshop Participant Evaluation Form and the Problem Solving Inventory in order to collect pertinent information useful in planning future workshops. A *t*-test used to analyze the "pre" and "post" responses of the participants to The Problem Solving Inventory to measure their problem-solving perception showed the following: .52 on approach-avoidance, .37 on personal control, .37 on Problem-Solving Confidence, and .27 for the problem-solving total.

Along with this information and that derived from participant responses to the GLOBE Participant Evaluation Form, the workshop was deemed highly successful. The teachers and their preservice teachers who gained experience using the GLOBE activities expressed positive reflections toward the GLOBE Program.

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4:00 p.m. - 4:50 p.m. **SCHOOL ADMINISTRATION**
(Discussion Session) **Cabildo Salon**

PRESIDER: Kenneth T. Clawson, Eastern Kentucky University

INTEGRATING CURRICULUM AND INSTRUCTION/ADMINISTRATIVE PRACTICE TO CREATE NEW EDUCATIONAL LEADERS

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

Historically, students in graduate programs in educational leadership have experienced training in curricular issues by registering for separate courses within the departments of Curriculum and Instruction and Educational Leadership. This program presented an early effort to employ the concept of integrated curriculum instruction from these two existing departments in the delivery of an innovative graduate program to train future educational site leaders. The focus of this preliminary effort employed three sections of an existing graduate course in educational leadership to demonstrate how knowledge and skills from both departments could be brought together to more realistically frame "real world" problem solutions. This instructional delivery model allowed the opportunity for both professors and students to jointly challenge traditional beliefs and practices in designing strategies that would create innovative educational environments within K-12 settings.

Within the program's presentation, participants received information and materials that were employed in this reform delivery model. Additionally, data from a pre-post assessment instrument on this instructional delivery effort was provided.

AN ASSESSMENT OF A FIRST-YEAR MODIFIED BLOCK SCHEDULING EXPERIENCE

Robert S. Calvery, Southside Public Schools (AR), and David Bell
and Glenn Sheets, Arkansas Tech University

The purpose of this study was to determine the effectiveness of a modified block scheduling, first-year experience as perceived by both teachers and students. The study used data collected from surveys to compare teacher and student perceptions focusing on the block scheduling issues of involvement, discipline, teaching methods, homework, and overall evaluation. The surveys consisted of 12 questions using a Likert-type scale. Participants included 22 teachers and 200 students.

Data analysis consisted of *t*-test comparisons of the teacher and student means on each of the 12 block scheduling variables. The *t*-test comparisons of teacher and student means found statistically significant differences for 10 of the 12 variables. The most statistically significant finds were issues of class time, homework, teaching methods, and student interest. However, both teachers and students wanted to continue with the block scheduling rather than returning to the traditional schedule used in the past.

Based on the findings drawn from the surveys recommendations included the following: continuation of the block scheduling in the next school year, use of more student activities in classes, teachers encouraged to be more student-centered, and more staff development for teachers.

THE FEASIBILITY OF 4X4 BLOCK SCHEDULING IN SECONDARY SCHOOLS: A REVIEW OF THE LITERATURE

Anthony Stanley and Lorna J. Gifford,
Northwestern State University (LA)

The purpose of this study was to examine the possibility of implementing the 4x4 block schedule as a means of improving education without an added financial burden to the schools. The call for improved education in modern America, coupled with the scarcity of resources with which to accomplish such a task, requires a thoughtful reallocation of the currently available resources in order to make improvements in instruction.

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Rearranging time is one of the most accessible methods available to stretch current resources to greater use. By use of alternative scheduling, high schools have the potential to effectively reduce the down time between classes, increase usable time per class period, and decrease discipline referrals. Scheduling class time into extended blocks appears to be the simplest and most effective method by which these ends can be met. Among the many block schedules available, the 4x4 block is one of the most widely implemented. Its attractive characteristics are drawing more adherents daily, begging the question of how applicable the model truly is to improved instruction. While the advantages of the 4x4 block format are probably legitimate, it is doubtful that the model is the all-encompassing remedy that its widespread adoption would suggest.

If the implementation of the 4x4 block schedule format is pursued in a logical, thoughtful, and reasonable manner, it is possible that its wonderful advantages can be harnessed in the situations that best suit it. When adopted without lengthy consideration, it could lead to very high profile failures.

5:30 p.m.

KEYNOTE ADDRESS.....Queen Ann Ballroom

**INTRODUCTION John M. Enger, Arkansas State University
President, MSERA**

KEYNOTE SPEAKER Jim Popham

**MEASURING MILEAGE WITH A TABLESPOON: THE MISUSE OF
STANDARDIZED ACHIEVEMENT TESTS**

MSERA President's Reception