

The Second Annual
Ranger Research Day

Northwestern Oklahoma State University
Alva, Oklahoma ~ April 4, 2008

Key-note Speaker, Dr. Linda Mason

Coordinator of Grants and External Funding Assistance
Oklahoma State Regents for Higher Education



Dr. Mason is Coordinator of Grants and External Funding Assistance for the Oklahoma State Regents for Higher Education, and has developed this new position for Oklahoma higher education beginning in March 2004. She provides grant development assistance to all Oklahoma higher education institutions, focusing on the undergraduate institutions. She holds an Ed.D. in Curriculum and Instruction (1974), and an M.S. in Education (1972), both from Oklahoma State University, and a B.A. in Education (1968) from the University of Arkansas at Little Rock. She is a native Oklahoman from Coweta, and was the first college graduate in her family and two previous generations. Her professional experience includes being a public school teacher, a faculty member, a department chair, a dean, and a state administrator; she has been instrumental in developing five new academic and continuing education programs in her career. She has written, assisted in writing, and directed projects for hundreds of grants for millions of dollars.

Ranger Research Day

Northwestern Oklahoma State University

S C H E D U L E

8:00 a.m. ~ registration and set-up,
Student Center Ballroom

9:00 a.m. ~ judging begins

10:00 a.m. ~ poster displays open to public

11:30 a.m. ~ lunch (on your own)

1:00 p.m. ~ key-note address and presentation of awards,
Student Center Ranger Room

A B S T R A C T S

*An asterisk denotes a project authored by a NWOSU faculty member;
only student posters are eligible for competition and awards.

Arts and Music

1.01 Art & Design

1.02 Music

1.03 Theater & Dance

1.03.01, Charles G. Burns; Kimberly Weast, sponsor

Hedda Gabler

My research is a preliminary design of the stage play Hedda Gabler by Henrik Isben including lighting and set design and floor plans of Herod Hall. The process of designing a stage production is very tedious and requires teamwork in all aspects of the process. My research and supporting material is the preliminary stage of the design process. As a speech/theatre major, I am required to design a full production, which is where this research and process will come into effect in my college career. My supporting materials include: Herod Hall floor plans, a preliminary white model (which is redone in color later in the process), related architecture and set design, lighting hookup charts, overall lighting design, lighting gel colors, and much more. This process required extensive research and will hopefully receive the appropriate recognition.

Business

- 2.01 Accounting
- 2.02 General Business Administration
- 2.03 Business Communication
- 2.04 Economics
- 2.05 Finance
- 2.06 Information (MIS) Operations Management
- 2.07 Management
- 2.08 Marketing

Education

- 3.01 Curriculum
- 3.02 Gerontology
- 3.03 Human Environmental Sciences
- 3.04 Kinesiology, Health Studies & Special Services
- 3.05 Professional Teacher Education
- 3.06 Psychology

3.06.01, Tiffiney D. Walls; Dr. Wayne McMillin, sponsor

Socioeconomic Status and Sex Role Stereotypes Toward Women

The study is designed to investigate how an individual's income and education level influence the individual's beliefs regarding what roles women should fill within society. Sixty-seven participants (NWOSU students and faculty members) were asked to rate their general attitudes toward women using an adapted, short version of Spence & Helmreich's (1978) Attitudes Toward Women Scale (AWS). The scores from the AWS were then compared to the participants' education level and household gross annual income (socioeconomic status) to determine how the variables impacted one another. The results showed that education level and income did not have a statistically significant impact on the participants' attitudes toward what roles women should fill within society. Although the results were not statistically significant, it is worth noting that participants that had completed a Bachelor Degree or higher, as well as those that had an income greater than fifty-thousand dollars a year, had the most liberal attitudes toward women. Participants aged twenty-three and younger held the most traditional views toward women. The trends in the data suggest that individuals with high levels of income and education have the most liberal views toward women's roles. The study's societal impact is that it provides evidence that an individual's socioeconomic status may influence their beliefs regarding what roles women should fill within society. Future research suggestions will be discussed.

3.06.02, Jimmye Miller; Dr. Wayne McMillin, sponsor

Does Birth Order Determine Personality?

The present study is done to show the effects of birth order on a person's personality. Ninety working adults and college students (19 men and 71 women) between the ages of 19-75 completed a survey with 4 demographic questions and the Zuckerman's Sensation Seeking Scale IV with 40 total questions divided into four sub-sections of 10 questions each. Findings indicate that the age group I chose really did not show significance on any one sub-topic. Basically, the group consisted of more women than men and it was a pretty "mild" group; most being from rural areas. I suspect that if I had used my survey for teenagers around the 12-17 age groups, my results might have been different. I enjoyed this study and gained insight to my own personality and realized some of the characteristics and reasons why with my own family.

3.06.03, Brian Wright; Dr. Wayne McMillin, sponsor

How Important is Color in Advertising

The purpose of this study is to research the relationship between advertising and its use of color. This research will investigate if there is correlation between use of color and the effectiveness of advertising. I want to discover if color is a major factor in the daily decision of individuals. I also want to find out if color does influence decisions and to what extent the decision is carried out. With the results of the following research project, companies will be able to effectively advertise. This can boost company profits and save company funds. When advertising is used correctly, the company can benefit insurmountably. I hope to find that there is a significant appearance that links color and advertising together.

3.06.04, Stephanie Betts; Dr. Wayne McMillin, sponsor

Generational Transmission of Spanking

Whether to spank or not to spank has been debated for years, but why parents spank is still somewhat of a mystery. The purpose of this study is to examine one reason why parents might choose spanking a discipline technique. The concept of intergenerational transmission is not a new concept, but a somewhat over looked concept when examining discipline techniques, not related to abuse. This study took a sample of the population of Garfield County, Enid, Oklahoma. The participants were given a survey that contained questions related to their discipline techniques and the discipline techniques their parents used on them. There were also questions pertaining to the why they choose a discipline technique. The results indicated a positive relationship between the variables.

3.06.05, Amanda Coons; Dr. Wayne McMillin, sponsor

First-Generation Students and Non-First-Generation Students: A Comparison Between Their Reasons For Pursuing Higher Education and Their College Experience

The study examined the background characteristics of first-generation college students, their reasons for pursuing higher education, and their college experiences. In comparison to students whose parents or parent had went to college. Such analyses can identify challenges that are particular to first-generation college students and inform offices of student support services of the kinds of help that these students need to succeed at a four-year institution. The results of this study however, show no differences between first and non-first generation students regarding their college knowledge and experiences, however, there is significant differences between a few of the questions on their reasons for pursuing higher education.

3.06.06, W.L. McMillin, R.C. Murrow, and D.G. Skinner*

A Descriptive Analysis of Graduate School Predictors and Outcomes at NWOSU

The purpose of this action research study is to investigate the relationship of the admissions, performance and outcome measures used in the Master of Counseling Psychology program at Northwestern Oklahoma State University. Upon IRB approval, data was extracted from graduate student files for the time period between the Summer 2004 to Fall 2007. The final data set included sixty-two usable records. The variables used were undergraduate GPA, graduate GPA, MAT percentiles for both the intended major using the 92 norms and percentile for the total group, and finally the MCP comprehensive exam results. Additional data was collected for grades by courses taken

while in the program. The results indicate that significant relationships exist between the MAT and the MCP comprehensive exam. Additionally, it was found that there was a significant relationship between undergraduate GPA, graduate GPA and the MCP comprehensive exam. Of interest, however, is the fact that GPAs (undergraduate and graduate) had no relationship with MAT scores. Grade distributions by courses taken in the program indicate high levels of parsimony. These results and the implications for evaluation of the MCP program are discussed.

Liberal Arts

4.01 Communication

4.02 English

4.02.01, Lisa Herning; Dr. Sandra Petree, sponsor

The Far Flung Furioso: A look at vast settings within Ludovico Ariosto's Orlando Furioso

In writing the comedic epic Orlando Furioso, Ludovico Ariosto applied an unprecedented style that allows for bountiful and infinite range in settings of emotional variance, story framework, and physical geography. The use of vast setting within Orlando Furioso is a comedic formula devised by Ariosto to distance his ballad from its predecessors while parodying the standards of the traditional epic. In doing so, the Furioso dedicatedly alludes to its forbearers, contains details of history and battle and wanders through the valley of allegory. At the same time, it is a satire of the seemingly endless and often unfinished quest-theme as the Furioso, in its rampant rambling, never really gets anywhere. Swinging broadly between Classicism and Romanticism, Orlando Furioso is an episodic comedy that strays afar (literally) from the traditional epic model.

4.02.02, Anika Rohla; Dr. Sandra Petree, sponsor

Changes: A New American and Feminine Reality

At the end of the 19th century, the picture of the American woman was manifested as that of a housewife, who was responsible to raise children and provide a comfortable home. This idea of a perfect social order began to be challenged, through emerging women writers. Leading female authors of that time were Charlotte Perkins Gilman and Mary E. Wilkins Freeman, who emphasized with their short stories the importance for change in the portrayal of the American woman at the turn of the century. The research focuses on the role of women in general and how it is presented and questioned in Gilman's "The Yellow Wallpaper" and Freeman's "The Revolt of Mother." It will conclude with a comparison of both short stories, emphasizing different perspectives and common goals of the writers.

4.03 Foreign & Modern Languages

4.04 History

4.04.01, Dr. Eric Schmaltz*

National in Form, Socialist and Anti-Western in Content: The Aborted National Oblast Plan for Germans near Tselinograd (Astana), Kazakhstan, 1974-1980

This paper examines the Soviet Union's plan for an ethnic-German autonomous oblast (region) near Tselinograd (now Astana), Kazakhstan. The plan resulted from deliberations in Moscow and Alma-Ata (present-day Almaty) between 1974 and 1980. The regime sought further to indoctrinate its Germans with socialism, atheism, and anti-Western (hence anti-emigration) sentiments. The Soviets responded to the ethnic group's emerging national protest movement, West Germany's mounting diplomatic pressures, and the broader international community's growing demands to protect

human and minority rights. The USSR remained committed to the long-term integration and assimilation of its almost two million Germans, some of its most prized Soviet citizen-workers, with nearly half living in the Kazakh SSR. It meanwhile addressed domestic and foreign criticisms about the “German question” by formulating this new, but rather modest, nationality solution. The plan collapsed after 1979 amid public demonstrations in the Kazakh SSR. Kazakh opposition at all levels revealed the complicated and troubling nature of Soviet nationality affairs. The aborted plan’s legacy was the ethnic Germans’ continued lack of a national-territorial “container” when the USSR disintegrated in 1991. The proposal represented the regime’s first serious consideration of German autonomy since the group lost its Volga-German ASSR and remaining national districts in 1941. The oblast could have established an embryonic national center for Germans, from which they would have found themselves in a better political position during the dramatic Gorbachev and Yeltsin eras. It also could have helped reduce the dramatic mass migration of Germans from the former USSR to Germany after 1990.

4.04.02, Jana Brown; Dr. Eric Schmaltz, sponsor
Indo-European Languages: Discovery of and Homeland Studies

Indo-European Languages are a family of languages spoken in Europe as well as in some Southern and Central Asian countries. During the Middle Ages, Europeans began traveling to east Asia as merchants and missionaries. In the 1580’s, Thomas Stephens and Filippo Sassetti noticed similarities between Indian Sanskrit and European languages such as Greek, Latin, and Italian. In 1647, Dutch linguist Marcus Zuerius van Boxhorn hypothesized the existence of a primitive mother language, naming it Scythian. The hypothesis was re-visited in 1786 by Sir William Jones who lectured on the similarities between Latin, Greek, Sanskrit, and Persian, the oldest known languages of his time. In the early nineteenth century, Franz Bopp began a systematic comparison of languages igniting research, and an academic discipline of Indo-European Language studies was formed. There are several hypotheses regarding the origin of the Indo-European Language groups. They are all based on the premise that at some point a group of Proto-Indo-Europeans existed who spoke a mother language, although each hypothesis has a different opinion of this group’s place of origin. Over time, this group broke into several daughter language groups and dispersed throughout Europe and Asia. Today, although no conclusive evidence has been found, advancements in science and technology along with archaeological and language studies continue to lend more data helping to pinpoint a possible homeland. This study introduces the discovery and identification of the Indo-European Languages using comparative linguistics. It also considers two prevalent hypotheses on and continuing investigations into the Proto-Indo-European homeland.

- 4.05 Geography
- 4.06 Humanities
- 4.07 Philosophy
- 4.08 Political Science

4.08.01, Dr. Aaron L. Mason*
Playing Second Fiddle Huh? Re-evaluating the Vice President's Place in the Executive Branch

This project attempts to challenge some of the conventional wisdom regarding the dubious reputation of serving as Vice President by examining two issues. The first issue concerns the inability of the Vice President to be a relevant actor in American politics in terms of the historical development of the United States. Related to this involves the

ability of the Vice President to help shape the federal government into its current state of maturation. The second issue involves the potential for increased power for the office of the Vice President and re-examines the nature of the constraints and roadblocks that exist to an expanded and aggrandized Vice Presidency.

Math and Science

6.01 Biology

6.01.01, Dr. Aaron J. Place*

Demographics and attitudes of attendees at the Waynoka Rattlesnake Hunt in 2007

Rattlesnake hunts are a cultural icon in Oklahoma. Previous studies have reported on these events in Oklahoma, and elsewhere, from sociological and biological perspectives. The long-term impact of hunting for these events on rattlesnake populations is still poorly studied and virtually unknown. However, there is consensus among biologists that these events are adversely affecting snake populations and should be ended on ecological and ethical grounds. The purpose of the present study was to continue my investigation of the sociological aspects of the event held at Waynoka, Oklahoma. A survey consisting of 11 items was administered to 68 people attending the rattlesnake hunt in 2007. I report the distribution of attendees based on age, state of origin, number of times visiting this or similar events, and their reason(s) for attending. Chi-square tests for associated were applied to several combinations of questions in an effort to ascertain attitudes toward snakes and their treatment at the event. I conclude with several suggestions for reorganizing the Waynoka Rattlesnake Hunt to make it more ecological and ethically sound, without reducing the economic and entertainment value of the event.

6.01.02, Eric Summars; Dr. Aaron J. Place, sponsor

Habituation Learning in Western Diamondback Rattlesnakes (*Crotalus atrox*) in response to thermal cues

Few studies have been conducted in regards to habituation in rattlesnakes. Habituation refers to the reduction in response to a stimulus. Thompson and Spencer (1966) described seven characteristics of habituation. Of these seven characteristics, this experiment will focus on the characteristic that the weaker the stimulus is, the faster that habituation occurs. Test subjects were eight Western Diamondback rattlesnakes. Each snake was placed in a test chamber and presented with a stimulus twenty times. Two different stimuli were presented during two separate periods. One stimulus was hot and the second stimulus was cold. We quantified each snake's habituation rate by regressing duration by trial. We performed a paired t-test on the resulting regression slopes to determine if the rate of habituation was faster for the cool stimulus. Habituation did occur in six out of eight snakes. Rattle duration in six individuals did decrease as the stimulus was presented repeatedly, however there was no difference between the two stimuli. The data collected in this study did not support the hypothesis that rattlesnakes will habituate slower to the heated stimulus than to the non-heated stimulus. This does not mean that habituation did not occur but suggests that there was no difference between the two stimuli. This may be due to the heated stimulus being too weak of a stimulus to show a difference between the two stimuli. Alternatively, the small sample size may have prevented us from detecting a stimulus effect. Increasing the number of trials from twenty to forty, and increasing the number of subjects would surely improve our confidence in the results.

6.02 Chemistry

6.02.01, A. Moyer, C. Williams; Dr. Jo Conceicao, sponsor

Which comes first, formal charge or Lewis structure: A computational chemistry analysis using electron density?

One of the first topics a student of chemistry learns in high school or college is to draw the structure of molecules (collection of atoms connected together). Molecular structure is one of the fundamental principles of basic chemistry. A set of rules have been formulated over the years to draw the structure of a molecule. One such is the rules associated with G.N. Lewis. Being able to establish an accurate Lewis structure is an essential component in determining a molecule's correct structure. However, there exists a discrepancy between rules associated with Lewis structures, involving the concept of octet rule, and another set of rules known as formal charge. The discrepancy between emphasizing formal charge over octet rule or vice versa creates a conundrum for educators who are enlisted in the enlightenment of students pursuing a greater degree of fundamental understanding. Methods in computational chemistry are used to assist in deciphering the relative importance of the concepts of octet rule and formal charge using electron density. Results will be presented and discussed.

6.03 Computer Science

6.04 Forensic Science

6.05 Mathematics & Statistics

6.06 Nursing

6.06.01, Dr. Carole A. McKenzie*

Reflective Practice for Nurses in Transition

Nurse educators used the framework of a retrospective qualitative study to explore the influence of reflective practice strategies on nurse role transition. The initial aim was to address issues of role ownership and role accountability among Senior Baccalaureate students and graduate students in administration and nursing education courses. Literature searches were conducted on holistic care, role accountability and transition, reflective practice strategies, nurse clinical excellence, and learning based on mastery concepts. Students in all target courses were given reviews of key points from the literature and assigned guided reflective exercises related to their experiences with role transition issues. Faculty were so impressed with the quality of role insights in student narratives and papers that they sought and received institutional research review board approval of a proposal for a retrospective qualitative study. The researchers analyzed data using naturalistic interpretive approaches to "give voice" (Gilligan, 1982; Van Manen, 1990; Denzin, 1991) to reflections on experiences that contradicted their customary application of role values, communication, and nursing actions (Johns, 1995). Common themes that emerged were Perspectives, Emotional Experiences, and Engagement in the Reflective Process. The main theme was A Guided Reflective Journey Through Role Transition. Component metaphors for this theme were Transforming Mountains From Problems to Pathways, Safe Conduct Through Challenges, and Hope On The Horizon. Implications for the study include the potential usefulness of reflective practice strategies to promote role ownership and role accountability for all nurses, especially those in role transition.

6.07 Physics & Engineering

6.08 Agriculture

Ranger Research Day

Northwestern Oklahoma State University

Ranger Research Day is made possible by the assistance of the following individuals and organizations:

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Dr. Linda Mason, Key-Note Speaker

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