

Wayne State College

Wayne State College Honors Program
Student Abstracts, Fall 2010 Honors Colloquium

AMY DOERR

“CHARACTERISTICS OF AN EFFECTIVE MATH TEACHER”

Instructor: Dr. Jeffery Bauer

Seventh International Online Research Symposium, University of Nebraska-Kearney:
November 17, 2010

Abstract

Current research states that the classroom behavior of individual teachers has a significant impact upon students (Nessbaum, 1992). Teachers' beliefs, behaviors and attitudes are invaluable variables to student learning (White-Clark, DiCarlo & Gilchrist, 2008); however, there is little consensus regarding the specific characteristics that exemplify an effective math teacher. The need for evidence is pressing given that at least one-third of U.S. students enter high school without acquiring minimal math mastery (Nation's Report Card, 2005). In response to the poor math performance of U.S. students, the National Mathematics Advisory Panel's 2007 report emphasized that instructional practices must be addressed "to strengthen math education in order to give our students the skills to succeed in the 21st century" (U.S. Department of Education, p. 2). The aim of this study was to explore the relationships between teacher and student perceptions regarding pedagogical behaviors and attributes displayed by math educators. The study involved 90 high school math teachers and 180 undergraduate college students in the Midwest. Participants responded to a survey regarding the frequency and importance of teachers' and students' perceptions of how frequently teachers engage in pedagogical behaviors and the level of importance placed on teacher attitudes and behaviors. Statistically significant differences were also found with respect to gender and levels of experience. Findings suggest that understanding differential indicators of quality instruction may help educators improve students' mathematical achievement.

EMILY GARDNER

“IMPACTS OF PARENT BEHAVIORS AND BELIEFS ON STUDENT MATHEMATICS ACHIEVEMENT AND EFFORT”

Instructor: Dr. Jeffrey Bauer

Friday, December 10, 2010; 2:00 p.m.; Carhart Science Building, Room 006

Abstract

Past research has shown there are many factors relating parents' actions to children's performance and beliefs about math or academics in general. This study explores the impact of parental beliefs and behaviors on student's beliefs, efforts, and achievements in mathematics. A survey was administered to 390 students and their parents at a Northeast Nebraska high school. Responses totaled 349 from students and 69 from parents. The survey collected information about student and parent beliefs about mathematics, parent involvement in homework, and student achievement and effort. Many significant correlations emerged between the variables with data from the parent and student responses. This includes strong correlations between parent beliefs and student effort, parent expectations and student effort, and parent beliefs and student achievement. The possible implications of these results are discussed.

JOSHUA GUSTAFSON “JEDEDIAH SMITH: THE ORIGINAL PATHFINDER”

Instructor: Dr. Randy Bertolas

Wednesday, December 8, 2010; 4:00 pm; Connell Hall, Room 131

Abstract

Jedediah Smith is known as one of America's greatest explorers but is often overshadowed by others like Lewis, Clark, and Fremont. Although Smith explored much more Western territory than these men, he is often left out of the discussion of Western exploration. This research project goes in-depth into the travels and explorations that Smith was part of from 1822-1830, including the rediscovery of South Pass and his first and second expeditions to California. This paper also examines the importance of his discoveries in Western exploration and how they aided in its settlement. My goal is that this paper proves that when it comes to the discovery of Western America that Smith is equal to, or even surpasses those that have been called the “Pathfinders of the West.”

BECKY HAFER “AN ANALYSIS OF BRIDGE INFRASTRUCTURE IN THE CENTRAL U.S.”

Instructor: Dr. Randy Bertolas

Wednesday, December 8, 2010; 4:30 p.m.; Connell Hall, Room 131

Abstract

Infrastructure has a huge impact on nations, states, and sometimes, even communities. The economic cycle is dependent on the delivery of goods and services and without a system of transportation to support the production of revenues and income, the place, no matter the size, will be significantly affected. In this paper, the issue of bridge safety in the central United States is brought into focus. Even though the central part of the United States is relatively rural and sparsely populated, infrastructure plays a major role in how society functions. My paper will explain what bridges were included in the research sample and how “safe” the structures were according to current scientific rating systems. In conclusion, potential options to see some

possible solutions and techniques to maintain and rate bridge structures will be discussed in an effort to find an applicable and rational resolution to this enormously important concern.

ANNA HORAN “ART HAZARDS”

Instructor: Dr. Pearl Hansen

Tuesday, December 14, 2010; 3:30 pm; Peterson Fine Arts Building, Room 204

Abstract

A hazard is a situation that poses a level of threat to life, health, property, or environment. Within the field of art there are materials that have the ability to pose hazardous effects if safety procedures are neglected. Developing an understanding of art hazards is necessary to navigate the art classroom safely. In the early stages of this research, I gathered information on art hazards in order to develop a survey. Through this survey, I identified art materials and the environment in which they are used in art classrooms during the 2010-2011 school year and sent the questionnaires to secondary art teachers in a 100-mile radius of Wayne. This exercise was done in order to ensure an accurate comparison case study. My research will compare art teachers' knowledge and execution of art hazards safety procedures currently to those documented in past Wayne State College research.

**SAMANTHA MYERS “ ONE STEP FORWARD, ONE STEP BACK: THE
IMPORTANCE OF GENDER SOCIALIZATION ON
WOMEN’S EDUCATIONAL AND CAREER CHOICES”**

Instructor: Dr. Monica Snowden

Thursday, December 9, 2010; 4:00 pm; Connell Hall, Room 131

Abstract

The pathway of gender socialization is laid at birth, continues through adolescence to college, and ultimately is realized in the workplace. This paper explores the impact of traditional gender role socialization on women's educational choices. This is important because gender segregation in the workplace persists and the pay gap between men and women has yet to close. Nonetheless, women's participation is growing in traditionally male-dominated majors such as science, technology, engineering and mathematics (STEM) and related careers. At the same time, women are still underrepresented in STEM fields. Perhaps most interesting are the experiences of women who pursue their goals in these fields. Thus, data collected from personal face-to-face interviews with women involved in the natural sciences and math at a small, Midwestern college are presented. The participants include women faculty members and women students involved in STEM fields of study. In conclusion, the limitations of this study and future research considerations are discussed.

JOSHUA STUHL **“ART IN JAPAN: THE ATOMIC SHIFT”**

Instructor: Dr. Steven Elliott

Thursday, December 9, 2010; 3:30 pm; Humanities Student Lounge

Abstract

Incredible events have extraordinary effects. This premise holds true in the realm of Japanese art and culture. Japan – being the only country to sustain a direct nuclear attack – is a unique model for researching post-fallout society. Not only was the Japanese homeland culture shocked into submission following World War II (WWII), but also immigrants in the United States were subject to prejudice and alienation during WWII. This project will explain the reasons behind the aesthetic shifts in art and design in Japanese culture by exploring artistic movements and styles circa WWII. The research and analysis of a variety of artistically inclined works will highlight content and stylistic choices of Japanese artists in the eternal struggle to create a dialogue about their identity, values and collective worth within society. By evaluating works by Japanese masters, while taking context under consideration, this research will delve into the vast realm of Japanese art.

JOSHUA STUHL **“ART IN LATIN AMERICA: COLONIZATION AND CONQUEST”**

Instructor: Dr. Alan Bruflat

Thursday, December 9, 2010; 4:00 pm; Humanities Student Lounge

Abstract

Clashing cultures can attempt to co-exist (which is, by definition, impossible), decimate each other or meld. When America was “discovered” by the Spanish at the close of the 15th century, an epic history of death, destruction and – eventually – resolution ensued. This project examines the overall aesthetic shift in art and architecture in Latin America. The shifts, obviously, stemmed from the eradication of the natives’ cultures. The research will evaluate and describe the context of many works of art in 15th-17th century Latin American art, thus explaining how colonization of the New World irrevocably altered art aesthetic for the Aztecs, Mayans and Incas.

NATHALIE WIBORG **“THE EFFECTS OF SMALL CLASS SIZE ON STUDENTS AND TEACHERS”**

Instructor: Dr. Robert Sweetland

Wednesday, December 8, 2010; 9:00 am; Brandenburg Education, Room 217

Abstract

Class size has become a controversial area in the education field lately due to many issues including budget cuts and standardized test scores. The purpose of this research is to examine how small class size positively and negatively affects both the students and the teachers. I examine both the positive and negative effects class size has on both students and teachers. Some effects discussed include individualized attention, tests scores, parent involvement, student behavior, and teachers' relationships with students. This research can be used by teachers, administrators, and school boards examining how to best design classrooms.

JESSICA WIMMER

“RESPONSE OF MONGOLIAN STREAMS TO GRAZING MEASURED BY A RIPARIAN RANGE HEALTH PROTOCOL”

Instructor: Dr. Barbara Hayford

Friday, December 10, 2010; 11:00 a.m.; Carhart Science Building, Room 006

Abstract

Mongolia is known for its harsh continental climates, nomadic living, and its dependence on herding animals and the melt water from the mountains. Mongolia is a mix between coniferous tiaga forests and the grasslands (steppe). Traditionally Mongolian herders have protected the fragile lands by rotating the herd animals over valued pasture. Today the number of herding animals has increased dramatically and the number of goats has doubled (Batnasan 2003). Over grazing near streams can have negative effects on stream health. The Mongolian Aquatic Insect Survey collected water quality data and estimates of land use and land cover as it relates to grazing beginning in 2003. The visual estimates of land cover and land use can vary between researchers; therefore a rapid range health protocol was developed in order to directly measure the land cover. The rapid range health protocol was developed with the intention of reducing variability and bias. The rapid range health protocol data was recorded and analyzed. The range variables were measured and analyzed to determine correlation and statistical significance. The most highly correlated and statistically significant variables were Grass Height and Plant Height at 10 meters ($R=.73$). An overall theme included high statistical correlation between Shore Dominant Plant Height and Forb Height at the Shore.