

Abstracts
CSUS Faculty Research Conference
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Western Connecticut State University

Associate Professor Dr. Ellen Abate, Professor Dr. Barbara Piscopo

(Nursing, WCSU)

"The Insider View: Promoting the Cultural Competence of Students in Family Illness Care"

Background

The number of people receiving assistance at home will increase tremendously in coming decades in response to the increasing aged population. Family members provide 70% to 80% of the care received by elders. Additionally, changing demographics and social factors, such as poverty and unemployment increase stressors experienced by vulnerable family units. Typically, community health nursing courses include a component of home visitation. Visiting patients and families in their own surroundings provides a privileged opportunity for students to explore the multiple perspectives surrounding family illness.

Facilitating quality learning experiences in community/public health nursing is the responsibility of course and clinical nursing faculty. In 2003, the Quad Council of Public Health Nursing Organization published a set of Community/Public Health Nursing Competencies which serve to guide the course content and clinical learning experiences.

Purpose

Building on the Family-Nurse Partnership Model, this presentation will elucidate the teaching strategy used to facilitate student learning. Using the participant observation methodology, students complete a series of home visits to families experiencing an illness. Within this context, health beliefs, illness care and family views surrounding caregiving are drawn forth and serve as a basis to determine culturally appropriate nursing interventions. The purpose of this research was to determine whether there is evidence that this teaching method was relevant and effective in developing the knowledge, skills and competencies expected of beginning community health nurses.

Method

In fall 2009 12 RN-BS students were enrolled in Nursing 330, Nursing in the Community. As part of the course requirement, students participated in a series of home visits to clients/families coping with chronic illness or other health adversity. Students found families informally within the community and were guided in their practice through faculty direction (clinical conferences and feedback on weekly log). Each week they documented their interview skills and areas in need of family-focused assessment and intervention using a process recording format (weekly logs). Relevant data regarding health and functional status, family relationships, social concerns, cultural beliefs and expectations were documented during each interview. All students who enrolled in the course were asked to submit their weekly logs and final synthesis paper for content analysis by the researcher. A total of 11 students submitted their papers for inclusion in the project. Select core competencies of community health nursing served as a basis for analysis.

Findings

Knowledge generated from the research provided validity that the teaching learning activity was effective in promoting cultural competence of students. Student reflections and faculty guidance helped to foster an awareness of social openings (inviting more information), cultural bias, and enhancement of the therapeutic relationship between the nurse and the family.

Professor Dr. Fatemeh Abdollahzadeh

(Computer Science, CCSU)

“Parallel and Distributed Sequence Analysis”

To compare DNA or protein sequences they have to be aligned, global and local. Two main groups of algorithms are used for pairwise comparison. The first group, exhaustive algorithms, such as Needleman and Wunsch (NW) for global alignment finds the best match between the entire sequences, and Smith and Waterman (SW) algorithm which is a variation of NW algorithm, that finds the best local alignment between two genomic sequences for local alignment are based on dynamic programming. The second group, heuristic algorithms are FASTA and BLAST families. Most of the currently used algorithms are heuristic.

Parallel algorithms for analyzing DNA and protein sequences are becoming more important as sequence data continues to grow. Parallel software enables a massive computational task to be divided to different processes that execute concurrently on different processors to do the alignments extremely faster. I am working on fine grain and coarse grain parallelism on these algorithms.

Associate Professor Dr. Anthony Aidoo, Assistant Professor Dr. Emmanuel Osei-Frimpong, Professor Dr. Anthony Amos

(Mathematics and Computer Science, ECSU)

“Analytical Solution to a Highly Nonlinear Earth-Satellite Pitch Attitude Libration Equation”

We derive the dynamical equations that characterizes the pitch librations of an earth-satellite. To obtain analytical solution of the resulting highly nonlinear equation, we adopt a scheme that successively augments the nonlinearity level of the equation by adding nonlinear terms. We compare our results with available numerical solution.

Assistant Professor Dr. Sousan Arafeh

(Educational Leadership and Policy Studies, SCSU)

“Bringing “Education” into Focus: Highlighting Education’s Role in Implementing National (Tele)communications Infrastructure In the United States”

Robust, high-speed information and telecommunications infrastructure is necessary for a nations’ future economic, political, and cultural strength. Developed and developing nations are keen to establish significant information and communications technology (ICT) capacity – particularly broadband infrastructure – to maintain or achieve their competitive edge (Kim, Kelly, & Raja, 2010). This is not a new concept. Rome’s vast empire was credited, in large part, to the capacity it developed through the infrastructures of roads and swift communications. In the US, as well, infrastructure is an ongoing focus, but currently we are lagging behind.

Since the early 1900s, Congress has supported communications infrastructure development to provide radio, television, telephony and, now, land-based and wireless broadband connectivity to Americans and their institutions. In each successive communications “Act,” K-12 and postsecondary educational institutions play a major role as justifications for communications infrastructure upgrades and in the infrastructure’s technical deployment (McChesney, 2004; Cuban, 2003; Rusten & Hudson, 2002; Arafeh, 2002, 1999, 1998).

Most recently, the Telecommunications Act of 1996 established the “e-rate” – the primary funding vehicle used to connect schools to the Internet during the last 15 years. This policy/funding mechanism has been extremely successful in providing Internet connections and services to schools throughout the nation, but also, in doing so, furthering the national communications infrastructure overall; particularly to rural and other underserved communities. In light of the fact that early, intense ICT improvement initiatives in countries like South Korea, Australia, Japan, and Sweden have been paying off with jobs, knowledge sector growth, and increasing international impact (Kozma, In Press; Sánchez, Salinas, & Harris, 2010), the US, lagging behind, is feeling strong pressure to come up to speed. Thus, Congress asked the Federal Communications Commission (FCC) to outline a National Broadband Plan. Made available in March 2010, this plan sets a national (tele)communications infrastructure development agenda and, again, demarcates education’s role as high-speed broadband connectivity is sought for the nation. My documentary research makes education’s roles in communications law explicit – currently and historically – and is intended for education and communications historians, legislators, policy

makers, and education and industry leaders. with unique information to help inform the crucial legislative and policy decisions they will make in the current context.

This poster presentation will present a detailed explication of the current proposed legal/policy provisions and implications of the current National Broadband Plan relevant to K-12 and Higher Education. It will compare these with provisions afforded in the Telecommunications Act of 1996 and will include, but look beyond, the E-Rate and Universal Service.

The descriptive research detailing historical and current legal and policy contexts of the National Broadband Plan uses non-reactive document analysis using a pragmatic theoretical framework and a thematic qualitative analytic method (Braun & Clarke, 2006). Data/evidence sources are current and past telecommunications laws and regulations, relevant government and non-governmental reports or communications, websites from government and non-government organizations, (e.g., FCC, White House, Benton Foundation, U.S. Department of Education, Education Week, eSchoolNews), and scholarly or trade articles in the fields of education, communications, and law and public policy.

Professor Dr. Marsha Bednarski, Assistant Professor Dr. Jeff Thomas, Ms. LeeAnn Flynn

(Physics Earth Science, CCSU)

“Enhancing Elementary Pre-Service Teacher’s Science Content Knowledge”

To provide our student teachers with an appropriate background in science and science education, an analysis of current strategies being used by the participating schools/districts who host our student teachers will be done. Earth/physical science will be the focus of an analysis of participating schools/districts/state grade 5 Science CMT data to determine specific strengths and weaknesses in these content areas. Revisions to the Science Methods course and Earth/Physical content course for elementary majors will be revised to address content weaknesses in an effort to strengthen our science program and form science partnerships with our host schools and teachers.

Dr. Barbara Boller, Assistant Professor Dr. Deborah Hardy, Professor Dr. Marcia Delcourt

(Education and Educational Psychology- Instructional Leadership, WCSU)

“Effects of Fast Forward on Phonological Awareness and Rapid Naming Skills of At-Risk Students”

The current study examined the efficacy of Fast ForWord, a computer-based intervention designed to improve the auditory processing skills associated with language development and the subsequent acquisition of reading skills. The study used a randomized pre-test and post-test control design to examine the impact of Fast ForWord on the phonological awareness and rapid naming skills, of students who have failed to meet proficiency on the Connecticut Mastery Test in Reading as measured by the Comprehensive Test of Phonological Processing. The sample was recruited from a target population of 78 students from an urban school, between grades four and eight who were identified as at-risk students by scoring at the basic or below basic level on the 2008 Connecticut Mastery Test in Reading. A multiple regression and a two- group MANOVA were conducted as the methods in data analysis in this research. Results of the MANOVA indicated no significant differences in the levels of the independent variable, as defined by treatment and control group. Results of the multiple regression indicated that percentage of program completion predicted posttest phonological scores but not posttest rapid naming scores. Connecticut Mastery Test in Reading scores, when entered in the regression model, did not predict posttest phonological awareness or posttest rapid naming scores.

Assistant Professor Dr. Laura Bower

(Education, SCSU)

“Everyone Has a Story: A Collaborative Inquiry by Five Teacher Candidates of Color and One White Professor”

Initiatives to increase the number of teachers of color in US public schools must be accompanied by culturally relevant teacher preparation for candidates of color. This study is a cooperative inquiry (Heron, 1996) conceived, conducted, and analyzed by five teacher candidates of color and one of their professors, a White lesbian. The women met biweekly for a year to co-construct meaning from their experiences in a teacher education program. They analyzed data together,

including meeting transcripts, autobiographical sketches, and reflective writing on initial themes. Key findings include the complexity of teacher candidates' identities; the importance of support systems for teacher candidates of color, particularly within predominantly White contexts; the connection between teacher candidates' backgrounds and their visions as teachers; and the role others' perceptions, particularly those of teacher educators, have played in teacher candidates becoming teachers.

Professor Dr. Vincent Breslin, Undergraduate Student Ms. Karen Thomas

(Science Education and Environmental Studies, SCSU)

"Oyster Tissue Mercury Contents in the Lower Housatonic River Estuary"

The Housatonic river watershed is characterized by multiple potential sources of mercury including industrial and municipal wastewater discharges, atmospheric deposition and contaminated soils and sediments from Connecticut's legacy hat making industry. It has been estimated that the lower Housatonic River estuary produces one-third of all the seed oysters which are a vital part of Connecticut's commercial shellfish industry. Most efforts to examine mercury concentrations in Eastern oyster (*Crassostrea virginica*) tissues have focused on estuaries in the southeastern US and few studies have reported oyster tissue mercury concentrations for Long Island Sound. Oysters and sediment were collected from three sites in the lower Housatonic river estuary from Stratford south to the mouth of the river. Oysters were collected on three separate occasions (November 2008, June 2009 and October 2009) by dredge and surface sediment samples were collected on two occasions (June 2008 and June 2009) from the same locations using a ponar grab with the assistance of the CT Department of Agriculture, Bureau of Aquaculture. Approximately 30 oysters were collected from each site during each sampling event and sorted to select twelve oysters of similar shell length (80-100 mm) and condition (OCI: 4.4-5.5) for total mercury analysis. Oysters were shucked and tissues were freeze-dried, ground to a fine powder using a mortar and pestle, and stored individually in labeled 4 oz sterile Whirl-Pak plastic bags. Sediment and oyster tissue samples were analyzed directly for mercury by thermal decomposition amalgamation and atomic absorption spectrophotometry using a Milestone DMA-80 direct mercury analyzer according to EPA Method 7473. Sediment type in the channel of the lower Housatonic river at these three locations ranged from predominantly silt to predominantly fine-medium sand (70-330 μm median grain-size) with mercury concentrations ranging from 0.022 to 0.077 mg/kg dry weight. Mercury concentrations generally varied as a function of sediment grain size and sediment loss on ignition. Oyster tissue mercury contents at three locations ranged from 0.117 ± 0.013 to 0.211 ± 0.023 mg/kg dry weight. The mean oyster tissue dry/wet weight ratio for this study was 8.8. Oyster tissue mercury contents were not directly correlated with sediment mercury contents at each respective site and no seasonal trends were observed. Assuming all oyster tissue mercury is present as methylmercury, these reported levels are well below the U.S. EPA guidance criterion of 0.3 mg/kg wet weight for fish and shellfish.

Assistant Professor Dr. Meg Lota Brown

(English, ECSU)

"Early Modern Women Forging the Visual Canon"

My paper examines constraints on women's production of art in early modern Europe. Social, economic, and other cultural forces discouraged women from working in genres that were held to produce "great art" and instead directed them to the confines of crafts, handiwork, and other "domesticated art." Effectively forbidden from engaging in certain genres, subject matters, and media, female artists nevertheless distinguished themselves and competed successfully for recognition during the Renaissance. Many of them were the daughters and wives of other artists, allowed to train in the family business and contribute to both its production and its income.

One such group of artists was women engravers. My paper discusses the careers of five remarkably talented and successful female engravers, tracing their influence, innovations, and even international acclaim. Despite cultural hostility—manifested in women's exclusion from formal training, in the disparagement of both their natural abilities and their art, and in material impediments to their profession—a small group of female engravers from southern and northern Europe produced extraordinary and influential creative works.

Assistant Professor Dr. Wayne Buck

(Business Administration, ECSU)

"Engineering Failure Analysis as a Model for Ethical Failure Analysis"

I recommend a new cross-disciplinary research program to improve our understanding of how individual actions contribute to unethical corporate behavior. This research program utilizes an existing analytical discipline – engineering failure analysis – as a model for re-conceptualizing moral failure in organizations. Engineering failure analysis has undergone significant theoretical development recently, producing new insights into how large complex techno-social systems such as power plants, jet aircraft, mineral extraction processes and chemical plants fail.

This new theoretical framework, often called a "systems-theoretic approach," has been developed by Nancy Leveson at MIT and Sidney Dekker at Lund University in Sweden, among others. The systems-theoretic approach to industrial safety has, in particular, dramatically revised our understanding of the role that individual actions play in causing industrial accidents, shedding new light on the phenomena of "operator error." I develop the hypothesis that the insights emerging from this new theoretical framework are relevant to understanding the contribution of individual actions and decisions to corporate moral failures.

The new theoretical framework I propose to develop for understanding corporate moral failure promises the following benefits: 1) a set of tools for rigorously determining, in particular cases, whether a company's ethical failings were the result of just "a few bad apples" or if they were the result of more systemic failings; 2) a stronger theoretical basis for assigning moral responsibility to companies as a whole; and 3) concepts and principles for designing more ethically robust organizations.

Having motivated the research project and stated the theoretical hypothesis behind it, I demonstrate the potential of this project by examining a concrete example. In February, 2009, Colgan Air Flight 3407 crashed just outside Buffalo, New York, killing fifty people. I selected an airplane crash because a) systems-theoretic failure analysis arose in large part within aeronautical engineering and has been utilized to understand several other aviation accidents; and b) aviation accidents are commonly viewed through a moral lens. (After an accident, numerous lawsuits are brought alleging both legal and moral irresponsibility on the part of the airline and its employees. Incidents of averted aviation disasters, by contrast, such as the Captain Chesley "Sully" Sullenberger's dramatic landing of crippled a US Airways flight on the Hudson River, transform the pilots involved into heroes.)

In my examination of this incident, I first develop a systems-theoretic engineering failure analysis of the crash of the Colgan flight. Using this analysis as a model, I then sketch out an analogous systems-theoretic moral failure analysis of the accident and argue that such a moral failure analysis produces a better understanding of the moral aspects of the accident and generates new insights about how to prevent future moral failures.

Assistant Professor Dr. Alex Citurs

(Business Administration, ECSU)

"Integration of Liberal Arts Experiential Learning into Information Systems Service Learning Projects"

To design, develop and implement effective database driven business (organizational) information systems, individuals must gain and possess the ability to integrate multiple skills and expertise sets such as business process, technical and people. This requires business information systems professionals to be able to empathetically gain a thorough understanding of a wide range of stakeholder groups, their perspectives, tasks, roles and needs in every organizational information systems project. Getting undergraduate business and business information systems students to comprehend, appreciate, and design systems to address the wide variety and sometimes conflicting needs of various system user groups can prove challenging. This field study research looks at various techniques used to promote students drawing upon their liberal arts educational foundations in attempting to gain greater insights into the various stakeholder groups' perspectives and needs and design and build systems that better meet their needs.

Initial research findings point out that multiple aspects of various liberal arts disciplines may be utilized and incorporated into the analysis and design of an organizational information system. Preliminary data findings are examined on a liberal arts discipline by discipline basis indicating what liberal art discipline tools, theories, methodologies and exercises appeared to be utilized by students in analyzing and building organizational information systems for nonprofit

organizations. This is done by triangulating students' survey responses, system documentation and features, with that of their reflective experiences papers. The preliminary data analysis indicates that some types of prior liberal arts experiences (both inside and outside of class) appear to be more frequently viewed as being valuable to students in their information systems service learning projects working with area nonprofits than their experiences in other liberal arts discipline areas. Example triangulation cases will be presented along with the supporting theories and research evidence from other studies.

Assistant Professor Dr. Alex Citurs, Undergraduate Student Mr. Justin Ferrari

(Business Administration, ECSU)

"Integrating Social Sciences, Organizational Behavior and Information Systems Theory in Designing a Non-Profit Database Website"

This is a longitudinal case study of how an undergraduate business information systems semester project team draws upon the team members' various liberal arts experiences and liberal arts discipline courses in analyzing the various organizational and stakeholder needs and designing a database driven information system to meet those needs for a small Connecticut nonprofit organization. Aspects of how team members utilize what they learned in their various liberal arts courses in interacting with representatives of the nonprofit organization through conducting interviews, designing questionnaires, and observing the related tasks at the non-profit organization site. How team members related their college liberal arts experiences to business and information system design theory and practices to working on the service learning project will be presented.

Associate Professor Dr. Cheryl Crespi, Assistant Professor Ms. Marie Kulesza, Professor Dr. Paul Mihalek

(Accounting, CCSU)

"Incentive-Based Tax Legislation and the Film Industry"

To stimulate economic growth, states have been aggressively pursuing the film industry. Through generous income tax credits, cash rebates, exclusions, and sales tax relief, states are hoping to attract a multi-billion dollar industry to create jobs and enhance revenues. There has been an increase in the number of states offering such production incentives. Although almost all fifty states offer some type of film production incentive, new aggressive incentives can offer potential to further attract new business. This paper discusses the growth of production and production incentives in the United States. It also questions whether the economic benefits derived by these incentives exceed the states' investment in subsidizing film production projects through the incentives.

Instructor Ms. Jennifer DeFrance

(Doctoral Dissertation in Higher Education, Community College)

"Student Interactivity in Distance Learning: Using Discussion Boards in BLS"

To meet student needs, higher education institutions must evolve and adapt to changes in the external environment. Rising popularity of online courses, or distance learning, combined with changes in student demographics (Hansen, 1998) have caused many institutions to utilize technology to meet the diverse educational requirements of students. Technology allows for opportunities to promote student engagement in online courses, but very little research has been conducted to explore the impressions students have of the current methods being used. Technology is a tool; how it is used and presented can affect educational outcomes.

This phenomenological study utilized online focus groups to understand student perceptions of interactivity in distance learning. This methodology was innovative in its application. By utilizing online focus group methodology in a synchronous format, including visual attendance, the researcher ensured participants (N = 15) were interacting in a social context. As research is developed around student learning and interactivity, educators can benefit from implementing new and innovative ideas into online courses.

Active engagement and connections to the materials promote student success (Bandura, 1997) in educational settings, and this study sought to identify student impressions of the current instructional methods used to promote interactivity. Overall, focus group participant experiences differed based on individual expectations and abilities, instructor level of

engagement in the course(s), and the manner in which interactivity was promoted within the course. Participants supported the concept of interactivity, but agreed that discussion boards, as they are currently used, are not the most effective method of promoting connections between and among students and instructors. To ensure that online courses are learner-centered higher education institutions need to include technology that is user-friendly and meets the needs of diverse student populations.

As online learning becomes more prevalent in higher education this research could provide useful insights into the benefits of using interactive applications and inform course development. Effective learning takes place when faculty keeps learners actively involved, and institutions support a positive connection between interactivity and online learning (Webb, Jones, Barker, & Schiak, 2004). Research results will be important to students, as well as higher education faculty and curriculum committees.

Professor Dr. Marcia Delcourt, Associate Professor Dr. Jyoti Sharma, Associate Professor Dr. Anitha Kurup

(Education and Educational Psychology, WCSU)

“Identification and Mentoring of Gifted Children in India”

The Indian government has made it a priority to recognize and nurture its gifted children, especially in science and mathematics. A 2010 Round Table Discussion to create a road map for identifying and mentoring gifted children in India was organized by the INDO-US Science and Technology Forum in New Delhi. This meeting resulted in the development of a draft document highlighting present program initiatives, past work of members of the Indian Department of Education, and input from US representatives. The US report included recommendations to: (a) Develop a National Center for Gifted Education in India; (b) Train teachers and school administrators to identify and nurture gifted students in their schools and classrooms; (c) Design and implement a data base system for describing identification systems and programs throughout India; (d) Design and make available a repository of identification tools and other assessments that program directors, teachers and school administrators could use to assist others in identifying their gifted children and evaluating their programs; and (e) Disseminate information about best practices and research in gifted education. Participants in this session will be able to compare identification systems and programs pertaining to gifted education across India, review the initial identification plans from 3 pilot programs, and discuss ideas for implementing an identification system for such an enormous and diverse country. This session is for those interested in international perspectives and comparative cultures regarding education, specifically for high ability children.

Undergraduate Student Mr. Adam Dickenson, Professor Dr. Doncho Petkov

(Business Information Systems, ECSU)

“A systemic evaluation of the Emergency Notification System at ECSU”

An appropriate notification system (ENS) can save lives and significantly reduce damages in a crisis situation. The goal of the system is to provide a timely and accurate response to the proper people and thus keeping them safer. A large number of stakeholders are involved such as police, citizens, and the media. It is crucial that all parties work together to coordinate the proper response through the proper communication device. Many educational institutions including ECSU have embarked over the last two years on installing such systems. Notification of emergencies comes via several communication outlets such as cell/home phone (texts), organization websites specific to the threat, emails (a less timely method), loud speakers etc.

The goal of this study is to provide a systemic evaluation of the ENS at ECSU. The results from an anonymous survey of a sample of students, faculty, administrative staff, Information technology services and public safety staff are used to derive generalized conclusions about the status of awareness among those stakeholders of the ENS and also about their perceptions of the system. The interview questions were based on elements of a systems methodology by Werner Ulrich, Critical Systems Heuristics. It includes a set of questions on four dimensions of the problem:

- Where does a sense of purposefulness for the ENS and value come from?
- Who is in control of the ENS and is needed for success?
- What experience and expertise support the ENS?

- Where does legitimacy of using the ENS lie to enable its acceptance?

The survey results reveal the current status of the awareness of the stakeholders of the ENS, their perceptions on the four dimensions above. They lead to some suggestions on what ought to be the role of the ENS at the university.

Associate Professor Dr. Mary Ellen Doherty, Professor Dr. Elizabeth Scannell-Desch

(Nursing, WCSU)

“Experiences of U.S. Military Nurses in the Iraq and Afghanistan Wars, 2003-2009”

The purpose of this study was to describe the lived experience of U.S. military nurses who served in Iraq or Afghanistan during the war years 2003-2009, and life after returning from war. The study of nurses' experiences is timely, relevant, and significant given the realities of armed conflict in our world today. When war breaks out nurses are called to serve. Following the terrorist attacks in the U.S. on September 11th, 2001, several coalition countries, including the U.S., deployed forces to Afghanistan to engage the Taliban and Al Qaeda. In 2003, the U.S. began assigning military nurses and other medical personnel to hospitals in Bagram and Kandahar, Afghanistan. The first contingent of military nurses supporting the U.S. invasion of Iraq was sent to Kuwait in February 2003. To date, this is the first published study to explore the experience of U.S. military nurses in the Iraq and Afghanistan wars. Colaizzi's phenomenological method guided discovery. This method combines elements of descriptive and interpretive phenomenology. Purposive 'snowball' sampling was used which calls for voluntary participation. The sample consisted of 37 military nurses who served in the Army, Navy, or Air Force in the Iraq or Afghanistan wars. Four data-generating questions guided the interview process. Most interviews were face-to-face and conducted in naturalistic settings chosen by the participants. Several interviews were conducted telephonically because of geographical constraints. Data analysis followed Colaizzi's method. Seven themes emerged from the data, including: 'Deploying to war'; 'Remembrance of war: Most chaotic scene'; 'Nurses' in harm's way: More than I bargained for';

'Kinship and bonding: My military family'; 'My war stress: I'm a different person now'; 'Professional growth: Expanding my skills'; and "Listen to me: Advice to deploying nurses." Analysis continued until data saturation occurred. War takes its toll on everyone involved, including caregivers. This study gives these nurses a voice in describing their experience, including their stresses, daily milieu, feelings, and a tapestry of the entire deployment.

Professor Dr. Katalin Eibel-Spanyi, Associate Professor Dr. Susan Freeman

(Business Administration, ECSU)

“The role of knowledge transfer and network relationships for stimulating growth in the professional services sector”

This paper examines the central role of knowledge transfer and network relationships in the context of services, focusing especially on professional service firms (PSFs). It develops a conceptual framework applying the knowledge-based view (KBV) of the firm to explain how knowledge transfer capability and network relationships impact the ability of PSFs in stimulating growth via innovation and internationalisation. This conceptual framework is supported by three propositions and emphasises the close and interdependent relationship of knowledge transfer and network relationships. It is proposed that the strategy of a PSF needs to specifically address the role of

knowledge and networks for success in innovation and internationalisation, with ultimate impact on PSFs growth. Areas of future research and managerial implications are outlined.

Associate Professor Dr. Craig Erwin

(Business Administration, ECSU)

“Motivation: The Key To Getting More Out Of University Committees”

Research on motivation has shown that there are a variety of tools and techniques that may be used to motivate employees, whether as individuals or in groups. Among the ways are ensuring that employees are well-suited to their jobs (Hackman & Oldham, 1976), and using specific and difficult (but achievable) goals to motivate individuals and groups (Ambrose & Kulik, 1999). Providing employees with feedback on their performance may motivate them to perform better (Hackman & Oldham). Individualized rewards may also motivate employees, especially if such incentives are tied to performance (Vroom, 1964). Further, employees are more likely to be motivated if rewards are distributed fairly and the reward

distribution process is perceived as fair (Adams, 1963). Finally, since workforces are increasingly diverse, attempts to motivate should consider individual differences (Robbins, DeCenzo and Coulter, 2010).

In universities, faculty and staff are typically expected to serve on a variety of committees. However, university systems and policies may fail to motivate either individual committee members or committees as a whole because little may be done to motivate committees and their members to perform at a high level. The incentives to underperform and free ride are likely to be more abundant.

This poster examines the extent to which systems and policies typically found in universities tend to motivate faculty and staff engaged in committee work. Following a review of the extant literature, propositions are offered on the likelihood that universities will be able to harness the potential of their committees.

Associate Professor Dr. Joseph Farhat, Professor Dr. Susan Coleman, Assistant Professor Dr. Carmen Cotei

(Finance, CCSU)

“Small Business Survival and Exit through M&A: A Duration Analysis”

We examine new firms created in 2004 and track their business status in the following four years using the Kauffman Firm Survey data. For firms that exited the sample during the 2004-2008 period, we distinguish between voluntary firm closure in the form of merger or acquisition and compulsory firm closure in the form of failure/permanently closed operations. We apply duration analysis with competing risks to test the effect of owner, business and industry characteristics on firm survival, closure and exit through M&A. The results show that by not taking into account the reason for exit (M&A versus permanently closed operations) we underestimate survival rates. In addition, factors that characterize closed businesses are different from those that characterize businesses that were sold or merged with other businesses.

Dr. Julia Ferreira, Professor Dr. Karen Burke, Dr. Janice Jordan, Associate Professor Dr. Edward Duncanson

(Education and Educational Psychology- Instructional Leadership, WCSU)

“The Effects of the Language! Literacy Instruction on the Reading Comprehension and Motivation to Read of Struggling Middle school readers”

This study investigated the impact of the LANGUAGE! literacy instruction on the reading comprehension and motivation to read of struggling middle school readers compared to that of a balanced literacy instruction. A convenience sample of sixth, seventh and eighth grade students (n=175) from a small, suburban middle school in Connecticut participated in the study. The sample was chosen from a population of reading and language arts students having scored in the lower 30th percentile (levels 1 and 2) of the reading portion of the Connecticut Mastery Test, as well as below goal (as defined by the district) on the Degrees of Reading Power (DRP) assessment administered during the first month of the school year. The study was quasi-experimental pre- and post-test comparison group design using intact groups. Reading comprehension was measured using the DRP and motivation to read was assessed using the three subscales (value of reading, instruction of reading, and self concept of reader) of the Adolescent Motivation to Read Profile-Revised (AMRP-R). The scores of those students in the LANGUAGE! literacy curriculum (experimental) were compared to those of the students in the balanced literacy curriculum (comparison) to determine whether a statistical difference existed in the mean scores between the two groups after treatment.

An analysis of covariance (ANCOVA) was used to analyze the first research question concerning the impact of instructional program on reading comprehension. The results indicated that there was a significant difference in the reading comprehension scores of the two groups, with the balanced literacy participants scoring higher than those having received LANGUAGE! literacy. However, the effect size indicated only a marginal practical significance between the two groups. A multivariate analysis of covariance (MANCOVA) was used to analyze the mean scores on the three subscales of the AMRP-R. No statistically significant difference was observed for any of the variables between groups. The current study adds to the vast body of extant reading research by exploring the impact of balanced literacy instruction in comparison to LANGUAGE! literacy instruction, and though only nominal differences were observed for reading comprehension, follow-up investigations are merited.

Associate Professor Dr. Lisa Fraustino

(English, ECSU)

"A Reading from The Hole in the Wall, Winner of the 2010 Milkweed Prize for Children's Literature"

I will do a reading from my novel *The Hole in the Wall*, winner of the 2010 Milkweed Prize for Children's Literature.

According to Booklist, the review journal of the American Library Association:

Everything has changed for Sebby, 11, and his twin, Barbara, as they struggle with their furious, depressed, unemployed dad and with the serious physical damage to their chicken farm. Strip mining has turned the surrounding landscape into an "ashtray," the family's chickens disappear, and there are no fish in the brook. Wealthy local astrophysicist Stanley Odum has bought up lots of land in the area. What is he planning to do with it? After Sebby stumbles into a mysteriously green glen and a surrounding network of tunnels that allow him and Barbara to spy on mining officials and their goons, the plot twists and turns from one surprising discovery to another, and the technical details are sometimes difficult even for Sebby to follow. More than the science-fiction elements, it's the urgent details of conservation that will pull readers, and when the issues reach right to Sebby's home, the questions increase. His older brother has gone missing: Is he a prisoner or in secret quarantine? How is the kids' dad involved? Winner of the Milkweed Prize for Children's Literature, this title will capture young environmentalists. Grades 5-8. --Hazel Rochman

Dr. Diana Friedlander, Professor Dr. Karen Burke, Dr. Lois Favre, Dr. Barry

Morgenstern

(Education and Educational Psychology- Instructional Leadership, WCSU)

"Comparison of the Learning Styles of Students with Autism Versus Typical Elementary-School Students"

Developing successful educational opportunities for students with autism has long been a challenge for educators.

Although medical research is making great strides in the treatment and etiology of autism, as more and more students with autism are learning alongside their peers in the general education classroom the struggle to find effective teaching methods increases. This challenge may well be due to the fact that students with autism have unusual intellectual and academic skills profiles making it difficult for teachers to accurately assess students and align curriculum. Educators must develop proficiency in carefully evaluating profiles of ability for children with autism as their unique strengths and weaknesses may not always be supported within the general education classroom. Once teachers have a rich understanding of how their students learn best, instructional plans can be developed which allow for their unique preferences.

All learners have a preferred learning style. Educators must become more proficient in assessing learning styles as they strive to differentiate instruction based on their students' needs. This paradigm neither classifies learners based on ability nor disabilities but, rather, on their individual preferences and therefore bodes well for students with unique skill sets such as those seen in students with autism.

Based on the knowledge that individual instructional preferences exist and can be measured reliably, this study examined whether or not the presence of autism influences those preferences. A sample of 52 students whose academic performance is at an elementary level and who have a diagnosis of Autism Spectrum Disorder (ASD) self reported their preferred learning styles using the Elementary Learning Style Assessment (ELSA). Results were analyzed and compared with ELSA scores of typical students to determine differences or similarities in the preferred learning styles of the two groups.

The data analyzed in this study revealed that students with autism have commonalities in learning-style preferences. Twenty four elements had significance at the .025 level in how they preferred to learn. Additionally, this study examined the commonalities or differences in students with autism and their typical peers. In four of the 25 learning-style elements, students with autism's learning-style preferences differed significantly from their typical peers. Findings are presented and discussed in Chapters 4 and 5.

Associate Professor Dr. Jane Gangi, Ms. Isabelle Umugwaneza

(Education and Educational Psychology, WCSU)

“Conceptions and Misconceptions in Children’s and Young Adult Literature of Genocide Since 1945”

Although there are numerous critical and analytical works on children’s and young adult literature of the Holocaust, there are none about genocides that have occurred since. In this session we provide an overview of children’s and young adult literature of genocides that have occurred since 1945: The Cambodian genocide (1975-1979); the Iraqi Kurds (1988); the Mayans of Guatemala (1981-1983); Bosnia, Kosovo, and Srebrenica (1990s); Rwanda (1994); and, Darfur (2003-present).

Issues of representation are considered; many of the authors accurately and authentically portray the genocide about which they write, and others perpetuate stereotypes or otherwise distort, demean, or oversimplify. For example, books written for children and young adults on the Rwandan genocide promote these misconceptions:

- “Rwanda has largely recovered from the 1994 genocide”—yet, as Isabelle Umugwaneza, a Rwandan student points out, Holocaust survivors aren’t “over it”
- It was a “civil war”—yet 800,000 to 1 million victims were unarmed. This misconception obscures France and China’s complicity in mightily arming Hutu extremists

Other problems include failing to mention the European racist theories that contributed to inciting the genocide (it was the Belgians who required identity cards beginning in 1933); and, that African violence is somehow different from the rest of the world’s violence. While I am finding mostly authentic and accurate books on the Bosnian genocide and, as far as I can tell, the Cambodian genocide, when it comes to Africa, white authors, consciously or unconsciously, perpetuate harmful stereotypes. In addition to the examples on Rwanda, the first picture book for children on the genocide in Darfur, Melissa Leembruggen’s (2007) *The Sudan Project*, contains this jingle:

Janjaweed is a funny word.

It’s not a plant or flower.

It’s a group of men with guns,

making war and taking power. (n. p.)

It is almost unimaginable that such a thing could be published today describing any other group, such as: “N”: “Nazi is a funny word. It’s not a plant or flower...” As the fifth graders with whom I have used this book observe, writing jingles about genocide is exceedingly inappropriate.

To analyze the books we use postcolonial theory: Edward Said (1978), Gayatri Spivak (1988), Linda Alcoff (1991-1992), Clare Bradford (2007), and Homi Bhabha (2005). Where possible, the voices of “cultural insiders”—those who are from the culture about which we speak—are included. In “The Problem of Speaking for Others,” Linda Alcoff (1991) says, “We should strive to create wherever possible the conditions for dialogue and the practice of speaking with and to rather than speaking for others. If the dangers of speaking for others result in the possibility of misrepresentation, expanding one’s own authority and privilege, and a generally imperialist speaking ritual, then speaking with and to can lessen these dangers” (emphases added, p. 23). Isabelle Umugwaneza and Jane Gangi have been meeting regularly to discuss the books on Rwanda.

In addition to critical analysis, historical background is included, based on the publications of recognized genocide scholars, such as Adam Jones (2010), Paul Bartrop and Steven Jacobs (2010), A. Dirk Moses (2010), Dominik Schaller and Jürgen Zimmerer (2009), and Samuel Totten (2009). A bibliography will be provided.

Graduate Student Ms. Laura Giovannoli

(Nursing, WCSU)

“Compassion Fatigue in the Home Care Nurse Caring for Chronic Long-Term Geriatric Patients”

The purpose of this quantitative descriptive study is to identify the incidence of compassion fatigue in the Home Care Nurse working with chronic long-term geriatric patients and to identify techniques/strategies used to cope. Literature reviewed acknowledges that stress exists in the nursing profession, this is known as compassion fatigue. Joinson first coined the term compassion fatigue in 1992. The literature explores compassion fatigue in hospice and hospital based nurses with limited research in home care nurses, reinforcing the need for research in this area.

Participants will be home care registered nurses working with chronic geriatric long-term patient for a minimum of six months. The National Association of Hospice and Home Care Nurses website will seek participation in completing the Professional Quality of Life Scale 5 (ProQOL 5), a demographic survey, and two questions about coping strategies.

The ProQOL 5 is a 30-question survey using the 1-5 Likert scale. The alpha reliability according to Stamm et al. (2009) is: compassion satisfaction $\alpha = .88$ ($n=1130$), burnout $\alpha = .75$ ($n=976$), compassion fatigue $\alpha = .81$ ($n=1135$). According to Stamm (2009), there is good construct validity with over 200 published papers, and 100,000 articles on the Internet.

Assistant Professor Ms. Robin Goodrich, Associate Professor Dr. Karen Daley

(Nursing, WCSU)

“Integration of Personal Digital Assistants in Nursing Curricula”

Computer technology is an essential tool that has influenced professional nursing practice. Access to evidence based information at the point of care is an accepted standard in the current healthcare environment. Use of personal digital assistants (PDAs) at the point of care allows the healthcare provider to access drug references, nursing procedures and treatments, and disease information in real time. Integration of the Apple iPod Touch in a junior level medical surgical nursing course is the healthcare innovation presented.

Professor Dr. Ivan Gotchev

(Mathematical Sciences, CCSU)

“Cardinal Invariants for k -box Products”

The most prominent, most useful, and most-studied cardinal invariants associated with topological spaces are the weight, density character, and Souslin number. Countless papers and monographs over the decades have given estimates, in some cases even precise evaluations, of the value of these invariants for the usual Tychonoff product of a set of spaces in terms of the values for the initial spaces. But in the case of product spaces with the k -box topology, very little is known, and that is fragmentary and nowhere systematically assembled. In this talk we will present some of the new results contained in our paper “Cardinal invariants for k -box products: weight, density character and Souslin number”, joint work with W. W. Comfort. In that paper we study with considerable thoroughness those three cardinal invariants for these modified box products, in each case seeking (as usual) estimates for the product in terms of the values for the initial spaces. Our methods are largely topological and set-theoretic, although as expected certain computations are made precise only when ZFC is enhanced with appropriate additional (consistent) axioms. Our work draws upon, and in some cases extends, published theorems of R. Engelking and M. Karłowicz, W. W. Comfort and S. Negrepointis, F. S. Cater, P. Erdős and F. Galvin, W. W. Comfort and L. C. Robertson, and M. Gitik and S. Shelah.

Dr. Jacob Greenwood, Professor Dr. Marcia Delcourt, Associate Professor Dr. Edward Duncanson, Dr. Robert Pauker

(Education and Educational Psychology- Instructional Leadership, WCSU)

“The Effect of Reflective Portfolio Use on Student Self-Reflective Skills in Science”

This study investigated the use of reflective portfolios in science as a means to provide students a medium to develop a repertoire of study and self-regulation strategies. These self-regulation strategies can be accessed and utilized by students to engage in independent study and help to manage workloads from multiple teachers. The use of a reflective portfolio addresses the theoretical framework laid out by Pintrich which organized regulatory processes according to four phases (a) planning, (b) self-monitoring, (c) control, and (d) evaluation. The reflective portfolio included student work samples,

revisions of work, reflections, and goal statements. Construction of the portfolio gave students the opportunity to engage in a cyclical process of self-regulation facilitating an on-going assessment dialogue between themselves and their teacher.

The focus of this study was a convenience sample of students from a public high school in a suburban community (population of 24,000) in the Northeast. The study used a quasi-experimental research design. Participants in the study included 158 (n=158) students in a nonrandomized control-group, pretest-posttest design. Two different situations were compared; (a) reflective portfolio use and (b) no use of reflective portfolios.

Research question 1 asked: Is there a significant difference in the self-regulatory skills of high school science students who produce reflective portfolios for their science assignments and those who do not? The Motivated Strategies for Learning Questionnaire (MSLQ) subscales of Metacognition Self-Regulation, Effort Regulation, Time and Study Environment, Rehearsal, Elaboration, and Organization were used to assess student self-regulatory skills. A multivariate analysis of variance (MANOVA) was applied where the six subscales served as the multiple dependant variables. The isolation of which specific self-regulatory learning strategies (Metacognition Self-Regulation, Effort Regulation, Time and Study Environment, Rehearsal, Elaboration, and Organization) were affected by reflective portfolio use in science was statistically insignificant.

Research question 2 asked: Is there change over time in the Portfolio Rubric scores within the group of students who produce reflective portfolios? The student generated reflective portfolios produced in the treatment group were assessed using the Portfolio Rubric. Four one-way repeated measure analysis of variance (ANOVA) procedures were used to ascertain if the rubric scores varied depending on the time interval. Statistically significant gains in students' rubric scores over time suggest students do benefit from structured goal setting, revision, and reflection. The findings of this study support the use of reflective portfolios to provide students the necessary mastery goal orientation to reflect upon their current progress towards meeting their academic goals. Additionally, this study suggests reflective portfolio use allows students to consider behavioral changes necessary to meet their goals and provides a framework for a dialogue about self-regulation and performance between teachers and students.

Assistant Professor Dr. Nancy Heilbronner, Dr. Elizabeth Connell, Associate Professor Dr. Sally Dobyns, Professor Dr. Sally Reis

(Education and Educational Psychology, WCSU)

"The Stepping Stone Phenomenon: Exploring the Role of Positive Attrition in an Early College Entrance Program"

This study investigated reasons for attrition at an all-female early college entrance program. Survey methodology was used to explore 43 former students' levels of satisfaction with their experiences in the program. The survey included closed-ended items that measured demographic information, reasons for entering and leaving the program, and an Academic subscale that measured participants' satisfaction levels with academic experiences in the program and the host college. The survey also included four open-ended items that asked participants how they viewed their time in the program, what they would change, and reasons why some participants left the program prior to graduating. Descriptive and inferential statistics were used to analyze quantitative data. Mean differences between retention and attrition participants were found on the academic subscale, indicating that retention participants rated the acceleration program and the host college as more academically challenging than did participants who left prior to graduating. Qualitative analyses conducted on open-ended items revealed that former students were generally satisfied with the program, however they believed strongly that the early college acceleration experience was not appropriate for everyone, but rather for students who were a good "fit" with the individual program. Suggestions from participants for ways to increase academic fit for this acceleration program are summarized in this article.

100 word abstract: This study investigated factors in attrition at an all-female early college entrance program. A survey was developed to measure students' experiences in the program. Retention participants rated the program of acceleration and the college as more academically challenging than did participants who left prior to graduating. Qualitative analyses conducted on open-ended items revealed that former students were generally satisfied with the program, however they believed that the early college acceleration experience was not for everyone, but rather for students who were a good "fit" with the individual program. Suggestions from participants for ways to increase student/program fit for this accelerative program are summarized in this article.

Assistant Professor Dr. Nancy Heilbronner, Dr. Margaret O'Shea, Professor Dr. Sally Reis

(Education and Educational Psychology, WCSU)

“Characteristics of Mathematically Talented Women Who Achieve at the Highest Levels on the SAT”

An increasing volume of research has focused on the gender gap between males and females in science, technology, engineering, and math (STEM) areas (Newcombe, 2007; Xie, 2003). Although progress has occurred in the last two decades, women still achieve fewer doctoral degrees, and pursue certain math and science fields (e.g. physics and engineering) in fewer numbers (Halpern et al., 2007). Although this gap has decreased over the years (National Center for Education Statistics, 2005), the overall trend of women scoring well below men on the mathematics portion of the Scholastic Achievement Test, Math (SAT-M) continues (College Board, 2006). Because higher SAT-M scores have been shown to be a predictor of success in math and science careers (Lubinski, Benbow, Webb, & Bleske-Rechek, 2006), a study of young women who are successful on the SAT-M may help to determine some of the characteristics that accompany success.

This qualitative study was conducted to examine the experiences of 23 young women who both identified as gifted and who achieved above the 95th percentile on the quantitative section of the SAT. By focusing on psychosocial, school, and home experiences such as parental expectations and teaching, researchers worked to identify factors that accompanied these students' superior achievement on the SAT-M to determine whether these students shared common experiences.

Ms. Melissa Jenkins, Associate Professor Dr. Kathryn Campbell, Professor Dr. Marcia Delcourt, Associate Professor Dr. Karen Burke

(Education and Educational Psychology-Instructional Leadership, WCSU)

“African American Adolescents' Perceptions of Their Learning, Instructional, and Relational Experiences”

This study will examine African American adolescents' perceptions of their learning, instructional, and relational experiences in the classroom and at school. A qualitative case study approach will be utilized with triangulation of method (self-report instrument, interviews, and focus group) and instruments (self-report instrument using a Likert-type scale, open-ended questions, and scenarios). The participants will be twelve African American eighth grade students from an urban school district in Fairfield County, Connecticut. Students' perceptions of learning, instructional, and relational factors will be assessed through (a) a self-reporting measure, the Patterns of Adaptive Learning Scale (Midgley, 2000); (b) semi-structured interview questions developed by the researcher; and (c) focus group questions related scenarios adapted from Boykin et al. (2005) and based on the work of Howard (2001) and Ladson-Billings (1995). The data from each case study will be analyzed for themes, constructs, and patterns of African American adolescents' academic and social learning experiences.

Assistant Professor Dr. Truman R. Keys

(Communication, WCSU)

“Advice Giving in Higher Education is an “Enabler” for Black Males”

Black males are in a state of crisis with too many Black men dropping out of school, unemployed, and without a plan for reducing their plight. These circumstances are disheartening for Black male students seeking advancement in a 21st century America. In order to advance Black male students during the Great Recession family, friends, and academic and counseling professionals must provide competent and comprehensive advising to Black male students. This study is a thematic analysis of research evidence that determines how advising is a tool for advancement and the implications of advising for Black male students and educational institutions that invest in them. A key finding of this analysis is that advising promotes an “it takes a village” philosophy and pro-social behavior. Advising is a useful tool in the advancement of Black males because it promotes worldview, self concept and self efficacy, dialogue, social adjustment, readiness, and social capital.

Assistant Professor Dr. Miai Kim

(Education, SCSU)

“Child Care Teaching as Gendered Work”

This qualitative study explores six child care teachers' perceptions of their work as gendered work. The purpose of the study is to understand how the experiences of women child care teachers are connected to the larger issue of gendered teaching embedded in culturally pervasive beliefs about child care teaching. This study answers the following questions: 1) What do child care teachers perceive about their work? 2) How do they conceptualize child care teaching as women's work? 3) How do they describe the practice of their perceived work as women's work?

Data were collected through in-depth interviews and, following Corbin and Strauss's (2008) grounded theory methodology, analyzed to find emergent themes. Six themes emerged from the analysis of interview data: 1) child care teaching is not gendered work, 2) child care work is an identification of self, 3) child care teaching is a way of relating to one another, 4) vulnerabilities of child care work, 5) child care is hard work, and 6) contradictions and paradoxes.

These themes answer the three research questions. First, these teachers perceive their work to be gender-neutral work, self-identification, mutuality, vulnerabilities, and labor profession. Second, the teachers conceptualize child care work both as gender-neutral and gendered, as creating women's culture, and as women's culture being stigmatized. Third, the teachers show paradoxical and inconsistent attitudes about the practice of their perceived child care work as gendered work.

The categories about the participants' conceptions of their work are interrelated and interwoven. They reflect a complexity in the participants' understandings. The inconsistencies of the teachers' perceptions reflect the complexity of child care teachers' reality and their negotiations between dominant beliefs about what child care work means and the elements of their individual and collective experiences that they bring to their profession (Biklen, 1995; Dillabough, 1999, 2005; Murray, 2006; Ryan & Grieshaber, 2005).

The findings of this study provide implications for teacher educators. The implications involve the need to utilize contemporary theories and feminist perspectives to better understand the nature of child care teachers' work and to help teachers develop a critical and more realistic understanding of the nature of their work.

Dr. Raina Kor, Professor Dr. Karen Burke, Dr. Lois Favre, Dr. Jacquelyn Taylor

(Education and Educational Psychology- Instructional Leadership, WCSU)

“Teachers and Principals Perceptions of Leadership Characteristics and the Relationship of These Perceptions to School Climate”

This study examined the relationship between leadership characteristics and school climate. Through the online administration of two instruments, The Leadership Practices Inventory (LPI) and The School-Level Environment Questionnaire (SLEQ), teacher and principal perceptions of leadership characteristics in five categories and school climate in eight categories, were collected and analyzed. The SLEQ included two forms, actual environment and preferred environment.

Leadership skills, characteristics, and styles define the leader in a school building. The role of the school leader has become more complex, and expectations for leaders to create environments that support students, provide continuous learning for teachers, foster innovation, and meet achievement goals has become standard practice. School climate encompasses all of these expectations. Although the research on leadership and its characteristics is extensive, this study examined the research in the context of the needs of schools' today, identified how leadership influences school climate, and predicted the discrete leadership characteristics that support the growth of positive school climate.

The two-group multivariate analysis of variance (MANOVA) was conducted on the leadership characteristics as dependent variables. Findings determined that there is no significant difference between teachers' (N = 324) and principals' (N = 21) perceptions of leadership characteristics. A MANOVA was also conducted to establish significance between teachers' perceptions of their actual school climate and their preferred school climate. Results indicated there is a significant difference in teachers' perceptions when considering the two.

Multiple Regression analyses ($p \leq .003$) were used to determine the extent that teachers' ($N = 324$) perceptions of their principals' ($N = 21$) leadership characteristics predicted the teachers' perceptions of school climate and principals' perceptions of their own leadership characteristics predicted teachers' perceptions of school climate. Results of analyses indicated that teachers' perceptions of leadership maintain more predictive strength for school climate than principals' perceptions of leadership. In particular, the leadership characteristic of the Leadership Practices Inventory (LPI) Model the Way, showed a relationship most often to the school climate characteristics specifically related to the School-Level Environment Questionnaire's, Mission Consensus, Professional Interest, and Affiliation. Conclusions can be developed from these data and used to inform leaders about their own school climate and ways to develop positive school climate.

Dr. Frank LaBanca

(Education and Educational Psychology, WCSU)

"Analysis of Virtual World as a Community of Practice"

The advent of the virtual world allows for collaboration in new, innovative formats. A virtual world is a 3D computer-based environment where users can interact, collaborate and share information as well as create and design tools and objects. Each user, or member generates a controllable avatar that can move and communicate with other avatars in the community. Those in this community of practice (COP) have the ability to meet "anytime, anywhere" to develop thought, understanding, and ideas. The environment is conducive to an inquiry-based instructional approach. Inquiry is learning by questioning and investigation; the questions asked and means for investigation are vast, nonlinear, and idiosyncratic. A requirement of inquiry is that the goal of learning is "to do" and learn "about" at the same time. Inquiry results in imaginative, evidence-based explanations achieved through critical thinking and leads to a deeper understanding of concepts.

This qualitative multicase study examines (a) the nature of the virtual world, and (b) two COPs: 9th-grade high school students interacting from two different settings (suburban, urban) and a group of educational developers, each working on distinct projects in the virtual space. Using a hermeneutic theoretical approach with narrative analysis, ethical and substantive validation was achieved to interpret practice. Data was triangulated by source (student COP, developers COP) and method (observation, transcripts). Practical manifestation of the strengths and weaknesses of the virtual world for educational use were explored.

Professor Ms. Jeanne Lakatos

(Doctoral candidate in the Humanities/ Adjunct Professor in School of Arts and Sciences, WCSU)

"The Theory of Iconic Realism: Understanding the Arts through Cultural Context"

This introduction of iconic realism, as a semiotic theory, demonstrates cognitive variation, for the placement of an iconic object or person in a unique realistic setting in which this icon does not usually appear creates a static association of the icon with the designated realism. Since both the icon and the realistic setting represent an aspect of the culture, this unexpected juxtaposition results in a friction between these two entities and catalyzes vivid awareness of a cultural dilemma. The following pages describe two processes: that with which an artist creates and that by which an audience subsequently perceives and interprets the artist's creation of written, visual or aural composition.

These processes involve encoding of meaning and individual interpretation, or decoding of meaning, which develop into a new consciousness from the audience having experienced and interpreted the work of art and the artist, receiving new information emanating from the individual interpretations of the perceiving audience. Through a semiotic association, all parties attach an arbitrary set of signs with certain signifieds to create meaning that aligns itself with the perceiver's experience. The individual, then, interprets a work of art based on his or her perception of reality. Daniel Chandler explains:

Semiotics involves the study not only of what we refer to as 'signs' in everyday speech, but of anything which 'stands for' something else. In a semiotic sense, signs take the form of words, images, sounds, gestures and objects. Contemporary semioticians study signs not in isolation but as a part of semiotic 'sign-systems' (such as medium or genre). They study how meanings are made and how reality is represented.

Recurrently, through placement of iconic figures interacting within a realistic setting, this semiotic association unites the writer, artist, poet or musician with the audience to help the audience become aware of its new perception of a specific cultural phenomenon exhibited through the work of art.

Creative artists can affect their audiences' awareness of possibilities in cultural change through their use of iconic realism in representing concept in need of transformation. Iconic realism resonates from the semiotic cross-disciplinary trends in academic, economic, historic and aesthetic influences. Furthermore, the semiotic theory of iconic realism is relevant to cultural studies, for this aspect of semiotics provides an audience with the intellectual tools of cognitive stimulation that alert their consciousness to a tolerance for a different perspective. Once this mindset is activated, each person interprets the literature, music, art or film to form a unique association which could lead to recognition of new perceptions and further explorations through aesthetic modifications of a traditionally held cultural belief. These beliefs, although appropriate for a certain culture during a prescribed moment in time, may benefit from a transformation of the community's position. Therefore, as a means of assimilating evolving concepts of artistic expression, the study of iconic realism opens the door to expanded exploration of semiotic theory and iconic structures within the fields of literature, art, music and film.

Assistant Professor Dr. Anita N. Lee, Instructor Ms. Mei Lin Yeh-Lane

(Health & Physical Education, ECSU)

"Applied Skills in Online Survey Design to Increase Response Rate in Health Behavioral Study"

The purpose of this study was to investigate the internet-based online survey design methods to increase response rate and to decrease missing data in health behavioral research. The focus of this presentation is to tailor the issues of online survey design with practical application, including samples and useful tools will then be presented.

Firstly, the attention will be on the factors affecting response rate. Specifically, methods boosting response rate and decreasing missing data in online survey design are discussed. Secondly, things to do or to avoid on designing online survey will then be included. Thirdly, the advantages, disadvantages, and challenges of online survey will be discussed. Lastly, confidentiality and legal concerns of online survey will be presented. Followed by theoretical perspectives, practical application will also be presented. In details, key elements in online survey design, effective and ineffective online survey examples, comparisons of online survey providers, will be presented.

Dr. Timothy Leonard, Associate Professor Dr. Kathryn Campbell, Professor Dr. Karen Burke, Dr. Nicholas Kowgios

(Education and Educational Psychology- Instructional Leadership, WCSU)

"The Effects of Reading and Discussing Poetry on Fifth grade Students' Motivation to Read and Vocabulary Achievement"

This study examined the effects of reading and discussing of poetry in a fifth grade setting in a suburban school district in the Northeast. A protocol designed by Nancie Atwell (2006) was used as the treatment in the study utilizing a pretest posttest quasi-experimental design. The sample of convenience (n = 141) was drawn from the fifth grade in a suburban school district in the Northeast. All students were administered the Motivation to Read Profile (Gambrell, Palmer, Codling, & Mazzoni, 1996) to measure their levels of motivation prior to treatment implementation. Form S of the Gates-MacGinitie Reading Test: Vocabulary Subtest (MacGinitie, MacGinitie, Maria, & Dreyer, 2000) was utilized as a pretest to measure vocabulary achievement prior to treatment. Both the experimental and the control groups received literacy instruction in the form of the reader's workshop model, but the experimental group's instruction was supplemented with eight weeks of reading and discussing poetry using the Atwell protocol three times per week. Upon completion of the treatment, students were administered the Motivation to Read Profile and Form T of the Gates-MacGinitie Reading Test: Vocabulary Subtest to measure changes in motivation and vocabulary achievement.

An ANOVA was used to measure the effectiveness of the treatment on both student motivation to read and vocabulary achievement. For both research questions, results of the one-way ANOVA required accepting the null hypothesis. Thus, there were no significant differences in the vocabulary achievement or the motivation to read of fifth grade students who read and discussed poetry on a regular basis using Atwell's poetry protocol as compared to fifth grade students who did not read and discuss poetry using Atwell's protocol. Students who received the treatment continued to perform as well as those in the control group who did not receive the treatment.

Graduate Student Ms. Holli Levy, Professor Dr. Marcia Delcourt, Dr. Christine Salon, Associate Professor Dr. Gina Cicco

(Education and Educational Psychology- Instructional Leadership, WCSU)

“An Examination of Attitudes Toward Mathematics by Gender, Grade Level, and Parental Perceptions”

The purpose of this study is to examine the attitudes toward mathematics of students in upper elementary school and middle school. Their perceptions were analyzed by grade level, gender, and in comparison to the attitudes of their parents (or primary care givers). What teachers, administrators, and support staff, do in the classroom is a vital element in the development of attitudes and achievement in the area of mathematics for all students. When the child leaves the school environs he or she is exposed to a myriad of behaviors, attitudes, and opportunities with respect to mathematics, both positive and negative. Because the earliest and most influential model of attitudes comes from a child's parents, that will be one focus of this study. As children get older other factors influence attitude, which led to the focal points of age and gender.

For this research, children in grades five and eight, and their parents, participated in a study to attain information about their attitudes toward mathematics. The results of these surveys were compared to determine the proportional similarities of the number of responses made by parents and their children regarding their attitudes toward mathematics. A comparison of proportional relationships in responses was also examined comparing elementary and middle school children, and male and female students.

Professor Dr. Thomas Lonergan

(Biological and Environmental Sciences, WCSU)

“The Presence of Nanoparticle Quantum Dots Change the Properties of Human Hematopoietic Bone Marrow Stem Cells.”

Quantum dots (QDs) are photostable fluorescent nanoparticles that can be used to image and track cells for a number of biomedical applications, including the manner by which stem cells contribute to organ repair during cell replacement therapy. QDs have a heavy metal core, so there has been considerable concern about their potential cytotoxic effects. This is the first report of cytotoxic effects of Cd-based QDs on human stem cells, and the first report that QDs may internalize into mitochondria thereby disrupting mitochondrial function. Human hematopoietic stem cells were exposed to a 10 nM QD solution (Invitrogen) for one hour, then returned to untreated growth medium. There was no effect on viable cell number up to 48 hr, but by 96 hr post exposure viable cell number was reduced by 69%. The presence of QDs changes the cellular position of mitochondria, in relation to untreated cells, indicating that changes were occurring in the population of mitochondria. ATP content per cell remained the same in untreated and treated cells for 48 hr, then significantly decreased from 0.753 ± 0.001 (SEM) pmoles ATP/cell in control cells to 0.0170 ± 0.00296 (SEM) pmoles/cell in cells exposed to QDs 72 hr earlier ($P < 0.001$). Co-labeling of mitochondria and QDs suggest that the QD have the ability to localize in mitochondria over time, a new finding for these particles.

Professor Ms. Mary Kay Loomis

(Library, WCSU)

“Libraries' Role in Helping International Students' in Their Study Research - A Case Study”

Cultural diversity in the university presents unique benefits and challenges. There is no doubt that international students enrich the learning process through sharing cultural norms and life experiences, differing communication styles, and distinct learning styles. It is also true that previous experiences, communication and learning styles contribute to the challenges of serving international students. University libraries face these challenges in the course of fulfilling their ultimate goal of sharing information and discovering knowledge.

This study attempts to find out how international students use our libraries, what resources they use and the difficulties they face in using the libraries, and how librarians can help them overcome study and research barriers.

Survey questionnaire was used. The survey is composed of 5 parts, focusing on three main themes: language efficiency, ability to adjust to the current education and library systems, and general cultural adjustments in their study and access to information via library resource tools.

Key findings show the importance of library instruction, specialized instructions and one-on-one sessions, etc.

Findings also point out further improvement re library services. Follow-up research is planned in the near future.

Dr. Nora Marrinan, Professor Dr. Thomas Cordy, Dr. Michael Hibbard, Professor Dr. Kevin Isaacs

(Education and Educational Psychology- Instructional Leadership, WCSU)

“An Investigation of the Relationship Between Learning Styles of Fifth Grade Elementary School Students and Their Music Composition Processes and Products”

This researcher sought to investigate the relationship between perceptual learning modalities of fifth grade elementary school students and their compositional processes and products. Music composition, at the elementary school level, has been studied for many years, as the creation of new music can give students a more active role in learning, and in many cases, a greater understanding of musical concepts than can performing and responding alone. However, there is no research to suggest that learning styles play an important role in music composition processes and products of the elementary school student.

The purpose of this study was to determine if a relationship existed between students' preferred learning modalities and their music composition products, and if students articulated a heightened sense of confidence in the process of composing when creating music through their preferred learning modalities. Research indicates that innovative techniques to music composition are necessary to allow students opportunities to think in sound. It is agreed that while there may be multiple ways of teaching students to compose original music, often the methods of doing so dampen the motivation and creativity of children by being too structured to allow exploration and the development of musical decision-making, or, are so unstructured that they frustrate the children.

This study utilized the qualitative design, as the intent was to examine not only the products developed by the subjects, but the processes the subjects went through while composing. Each subject (n = 11) composed four musical compositions, initiated through each of the four learning modalities, (visual, auditory, tactual, and kinesthetic). Compositions were scored using a 6-point rating scale on the dimensions of aesthetic appeal, originality, craftsmanship, and proportion by independent music experts.

Following the music composition tasks, subjects completed a learning styles instrument, Learning Style: The Clue to You! (LS:CY!), to detect preferred perceptual modalities. The perceptual modality scores derived from the LS:CY! were then compared to the scores from the music composition tasks. During the second phase of this study, semi-structured interviews allowed the researcher insight into subjects' music composition processes as they related to preferred learning modalities.

An implication of this study is that by studying the optimal conditions by which students achieve success in music composition, educators might design appropriate composition tasks and assessments to further students' musical understanding.

Associate Professor Ms. Mary McCarthy, Professor Dr. Paul Mihalek

(Accounting, CCSU)

“Investigation of the Quality of the IASB-FASB Revenue Recognition Model”

Revenue “Wreck”-ognition? – IASB-FASB Exposure Draft: Revenue from Contracts with Customers is controversial. As U.S. GAAP converges with IFRS the effect on revenue recognition may be significant relating to the judgments and decisions financial managers make in recognizing revenue in a principles-based framework.

United States- based accounting students are currently learning revenue-related accounting principles in a rules-based framework. Prior to Accounting Standards Codification (ASC), U.S. GAAP revenue-recognition guidance comprised more

than 100 standards and guidelines. ASC has not changed any of the requirements. Many of the guidelines are inconsistent across industries thereby producing different results for economically similar transactions. The IASB-FASB Exposure Draft proposes a single global principles-based revenue recognition standard.

Applying the proposed principles will require more judgment from financial managers and will differ from current practice. Key differences exist that students need to understand prior to entering the workforce. Students should also be aware of the pros and cons of a principles-based accounting framework; why earnings management occurs; and what motivates managers to aggressively report earnings. This presentation will provide answers and strategies for incorporation in the course.

Associate Professor Ms. Pamela McDaniel

(Theatre Arts, WCSU)

“The WILL of Love: a performance piece contextualizing Shakespeare's love sonnets.”

A study of Shakespeare's love sonnets culminating in a performance piece that marries Shakespeare's sonnets to parallel scenes from his comedies: this research project culminated in an original script for a one hour production entitled The WILL of Love which was performed in the Spring of 2010 by WestConn students at the Turtle Shell Theatre in NYC, a DVD of that performance and a short ten minute collage that illustrates the concept of the work. A revised version was then performed as a staged reading for the New York Chapter of the National Academy of Television Arts & Sciences, at HBO, NYC.

The piece was developed by first examining all of the love sonnets and their thematic structures, secondly by excerpting love themed scenes from multiple Shakespearean comedies, and then weaving together selected sonnets and the plot lines from the comedies that illustrate those themes. The plays utilized were As You Like It, Much Ado About Nothing, The Comedy of Errors, The Taming of the Shrew, and The Two Gentlemen of Verona. The resulting performance piece provides an interesting view of Shakespeare's take on the female perspective in love. It travels from the early first blushes of attraction and infatuation, to flirtation, to games of courtship, to battles of the sexes, and finally comments on commitment and the prospects of ever enduring love.

The goal of the project was to contextualize Shakespeare's observations of the many facets of love as expressed in the sonnets by putting the words of the Sonnets in the context of scenes from his comedies. I utilized the device of having the writer, Will, attempt to create the ideal love match within a play was. Will faces the challenges of all writers: characters in circumstances that embody the various stages of love, characters that take on a life of their own, characters that don't obey his "will", and characters that ultimately teach him about love. Placing the scenes and characters next to each other further provided a comparative illustration of Shakespeare's comic devices of breeches roles, mistaken identity and the intrigue of giving love tokens; a comparison of the wit of his female comic characters; and a comparison of the complexities of male/female relationships.

The piece is written so that it can be performed by an ensemble of ten actors. Once the material was extracted from the various plays, I also discovered that I had created a piece that provided an excellent performance opportunity for female actors. Since all of Shakespeare's plays are heavily weighted with male characters, the piece can be very useful in the academic environment.

Assistant Professor Dr. Laura Mead, Professor Dr. Karen Burke, Dr. Lois Lanning,

Assistant Professor Dr. Jennifer Mitchell

(Education and Educational Psychology, WCSU)

“The Effects of Using Four Powerful Comprehension Strategies in a Gradual Release Lesson Design and Learning-Style Preferences on Reading Comprehension and Self-Perception of Struggling Readers”

This study examined the impact of the Four Powerful Comprehension Strategies on comprehension achievement and reader self-perception of struggling readers in grades three, four, and five. The study also observed the relationship between the intervention and learning-style processing preferences. There is a need for effective reading intervention at the intermediate level to teach struggling readers how to efficiently manage the complexities of comprehension.

This study utilized an experimental research methodology. The 63 participants were the total number of struggling readers identified at one elementary school in an urban school district. All subjects were randomly assigned to the experimental group or the control group. The experimental group received small group instruction using the Four Powerful Comprehension Strategies in a gradual release lesson design approximately four times a week for 14 weeks, while the control group received alternate intervention instruction.

This research used quantitative analyses to investigate each question. Comprehension was assessed, posttest only, using the Gates-MacGinitie Reading Test. Student self-perception was assessed, pretest-posttest, using the Reader Self-Perception Scale. The analysis of pretest data determined that no initial difference existed between group means. For both the cognitive and affective measures data were analyzed using separate two-way Analysis of Variances ($p \leq .025$) to determine a significant difference in mean scores between the two groups for each dependent variable. These data also were analyzed to determine if a significant interaction existed between the two levels of reading comprehension intervention instruction and students' Learning-Style Processing Preference (global and analytic) with respect to each of the dependent variables.

It was determined that there was a non-significant main effect between group means of the experimental and the control group for reading comprehension and reader self-perception. Additionally, the results indicated no significant interaction between the two independent variables in relation to either of the dependent variables. Although the analyses indicated no significant differences, the mean scores for experimental students identified as having a global processing preference were higher than the experimental students identified as having an analytic processing preference for both cognitive and affective measures.

Professor Dr. Paul Mihalek, Associate Professor Dr. Cheryl Crespi

(Accounting, CCSU)

"Assessing the Accounting Curriculum for Communication Skills, Software Skills, and Presentation Skills"

The presentation is designed to focus on what is taught at each level of the accounting curriculum. It is intended to reinforce retention of communication skills, software usage, and presentation skills. By analyzing the curriculum, Accounting Professors can work together to improve students' retention of skills as well as introduce more sophisticated skills throughout the three areas. By consistently reinforcing these skills student will retain much more information.

Ask yourself about your students.

Do your students remember what they did in introductory accounting courses? If not how do we, as faculty, insure that they build on what they learned, rather than have to retrain them two years later.

Graduate Student Ms. Sara Morgatto

(Education and Educational Psychology--Instructional Leadership, WCSU)

"Factors That Contribute to the Completion of Eligibility in Division III Women's Intercollegiate Sports"

The major topic considered for this qualitative research study was the identification of the factors that encourage women, according to the female athletes themselves, to make the four-season commitment as players on an intercollegiate sports team at the Division III level (D-III). More specifically, this study focused on the reasons that caused female athletes to choose their universities, the factors that positively influenced them to remain a member of a team, and the obstacles they faced that made it difficult for them to complete four seasons of eligibility. The student-athletes' perceptions of their athletic ability, their relationships with their team and coach, and the support provided by the university and family also were integrated into the study.

The importance of this topic stemmed from the observed number of women who chose to continue their high school athletic careers at D-III colleges and universities yet did not complete four seasons of collegiate eligibility. Of the 1,223 women listed on the 2008-2009 varsity intercollegiate sports rosters of the eight universities that comprise the Little East Conference (LEC) only 162 (13%) of them were seniors (Little East Conference Web Site, n.d.). Despite coaches engaging in countless hours year-round recruiting, practicing, and playing, coupled with the financial commitment of colleges and universities for women's intercollegiate sports, women at the D-III level do not complete their athletic eligibility. Coaches

may not be aware of the specific factors that retain female student athletes on teams for four seasons because little or no research has been conducted in this area.

The researcher designed survey, that included the Student Perceptions of Intercollegiate Sports Experience (SPISE), semi-structured interviews, and a focus group were utilized to gather information from senior athletes who had completed four seasons of eligibility in one sport. The information collected from these data-collection methods were analyzed to determine what factors positively influenced the women to complete four seasons of eligibility, the criteria they used to choose their universities, and how the student athletes' perceptions of their athletic experience impacted their decision to play for four seasons. The obstacles that they faced which made it difficult for them to complete four seasons of eligibility also were identified and appropriate support services were determined that encouraged completion of the college athletic career. The intent of this study was to discover the reasons women remain on D-III teams despite encountering obstacles by surveying, interviewing, and discussing the issue with female athletes from WCSU (WCSU) and ECSU (ECSU) who reached this goal and by conferring with athletic personnel from both universities regarding the plausibility of the theories generated from the study.

The results of the study suggest several factors that positively influence female-student athletes at the D-III level to persevere and complete four seasons of athletic eligibility. The factors that encouraged the women to complete their college athletic careers include the support of team mates, coaches and family, the acknowledgement of their athletic ability, the presence of team cohesiveness, and a sense of collective efficacy. Each of the female-student athletes expressed a feeling of passion about the sport that despite obstacles drove them to play for four seasons.

Associate Professor Dr. Viatcheslav Naoumov, Associate Professor Dr. Nidal Al-Masoud, Dr. Jeffrey Cloutier

(Engineering, CCSU)

"CCSU Moonbuggy-2 Senior Capstone Design Project, as a Road Map to the Successful Engineering Career and Effective Assessment"

The goals of this paper presentation are to: relate the experience of CCSU's (CCSU) 3rd year of using the NASA Great Moonbuggy Race Program as a capstone design project, describe the key steps of the project accomplishment, illuminate its impact on students long term career objectives, and show how to use such a comprehensive design experience as an assessment tool addressing most ABET criterion through a-k program learning outcomes. The first offering of this project as a senior capstone project was in 2008. During spring 2008 and 2008/09 academic year the first CCSU Moonbuggy vehicle was designed, fabricated, assembled, and tested on the grounds of NASA Marshall Space Flight Center in April 2009. The findings from spring 2008 and 2008/09 academic years were presented at the 47th and 48th AIAA Aerospace Science Meeting (Orlando, FL). During the 2009/10 academic year senior ME students designed, fabricated, assembled, and tested the next generation of Moonbuggy vehicle (Moonbuggy-2) and successfully participated in the 17th Annual Great Moonbuggy Race. The third year experience with the project confirmed that it is very suitable to engineering students for: offering ample opportunities to apply their knowledge gained throughout their course of study; improving their analytical abilities; developing their design, organizational, and project management skills; practicing working in multi-disciplinary teams; solving cutting-edge real-world engineering design challenges, paving the way to the transition to work force and enhancing their chances of success as practicing engineers.

Associate Professor Dr. Viatcheslav Naoumov, Undergraduate Student Mr. Thomas Boynton, Undergraduate Student Mr. Alexander Haralambous

(Engineering, CCSU)

"Investigation of the Combustion of Non-Conventional Fuels in Hybrid Propellant Rocket Engine"

Investigation of combustion parameters of bio-derived and other non-traditional fuels corresponds to the need of developing green and environmentally friendly rocket engines. Compared to the well known Liquid Propellant Rocket Engines (LPRE) and Solid Propellant Rocket Engines (SPRE), which use oxidizers with liquid and solid fuels correspondingly, Hybrid Propellant Rocket Engines (HPRE) use a solid fuel and a liquid or gaseous oxidizer. This research focuses on experimental and theoretical investigation of combustion of the non-conventional fuels such as paraffin, bee's

wax, “solid alcohols” in the HPRE. The goal is to perform experiments and theoretical analysis - to find out the relationships of the regression/burning rate, combustion parameters of solid bio-derived and non-conventional fuels with different oxidizers, and operational performances of HPRE. The research is based on the test fixture which includes small-size Hybrid Propellant Rocket Engine and instrumentation system, designed and built by faculty advisor and CCSU ME student team. Research includes measuring of fuel and oxidizer consumptions, in-chamber pressures, engine thrusts, numerical simulation and regression analysis, and obtaining novel relationships for the calculation of the regression rates for non-conventional fuels .

Dr. Michael Obre, Associate Professor Dr. Gina Cicco, Professor Dr. Marcia Delcourt, Professor Dr. Karen Burke

(Education and Educational Psychology- Instructional Leadership, WCSU)

“Attitudes, Self-Efficacy, and Frequency of Use of the Arts by Secondary-Level Teachers in Schools Deemed Successful or In-Need-Of-Improvement Under the No Child Left Behind Act”

This study compared and investigated the arts attitudes and practices of secondary-level mathematics and English teachers working in Connecticut public schools deemed either successful or in-need-of-improvement under the No Child Left Behind (NCLB) act. This study considered how educators of subjects directly assessed for NCLB compliance, specifically mathematics and English teachers, felt about using arts in the classroom. The Teaching With the Arts Survey (TWAS) was employed to gauge the arts attitudes, self-efficacy, and frequency of use of the arts among 166 ninth- and tenth-grade mathematics and English teachers in Connecticut. The evidence indicated that while no significant differences in attitudes, self-efficacy, or personal frequency of use of the arts existed for teachers based on their school’s NCLB designation, significant differences did exist on each of the experimental factors when teachers were compared by classroom discipline with English teachers scoring higher on all measures of arts use and support than the mathematics teachers studied. Among the demographic variables, only ethnicity presented an interesting relationship to the factor of arts attitudes with non-White teachers scoring lower than their White peers on this measure.

Associate Professor Dr. Klaus Peters, Graduate Student Mr. Frank Fearnley

(Computer Science, SCSU)

“Algorithmic Characterization of Visual Objects”

Gestalt psychology was developed in the 1920s based on detailed observations and extensive experimentations. Its theorem states that our perception, in principle, does not detect features as isolated sensory events but rather connected as “perceptual packages” (wholes - Gestalt). These connections are governed by the events’ relationships to each other and their “surrounds” (Ehrenstein, 1930). It is widely accepted that these phenomena determine how we perceive the world, but little is known about the mechanisms applied in physiological systems. In vision one of the general surround-derived inferences is that objects are characterized by contrast. Object contrast is relative to local background intensity (Peters, 1996). A specific object-derived implication is that an object can provide the background for its own structural details with both then being perceived together as one Gestalt Object. However, the mechanism for object detection and detail correlation are unknown and pose one of the fundamental questions in robotic pattern recognition. Progress in our understanding of the perceptual Gestalt process will have the greatest impact in all imaging fields, including diagnostic imaging, technical imaging and social imaging.

A serious problem in modeling physiological Gestalt pattern recognition arises from the limiting property of the visual system in recognizing only one of many elements at a time, thus requiring a mechanism for keeping the sequentially recognized features connected. This correlation mechanism is provided by specific structural properties of the visual sensor, the retina.

The retina shows highest spatial resolution at its center – the fovea and functions as “detail detector”. The reversed structural view point of the resolution gradient, its decrease towards the periphery, emphasizes the off-center region as a low-resolution “object detector”. We modeled this object detector using a background-centered search algorithm that uses a radial search vector for the discovery of object pixels at the longest distance on the vector (low-resolution mode). It produces a polygonal convex bounding box outlining the object. Detail within this outline is detectable in high-resolution mode using the shortest search vector at random points with maximum resolution, a search strategy similar to that found

in the saccadic eye movements. Thus one single algorithm can discover all structural features of a Gestalt object using two search procedures in minimum-resolution mode and in maximum-resolution mode combined with random search.

This novel retina model allows an automatic detection of all “structural Gestalt elements” but not the patterns of the Gestalt detail. These patterns can be described with an inner contour, initiated in void pixels. Kanizsa (1955) describes detail patterns causing the visual perception of illusory objects. Such void illusory objects are enclosed by contours that may be defined as inner contours. For their detection, the same radial and random search can be utilized as that used for detail detection but its origin are the voids and then only the closest object points are recognized. In fact, the Kanizsa triangle is detected as inner contour. We are now expanding our research to combining outer and inner contours for capturing a more complex substructure of Gestalt objects.

Professor Dr. Doncho Petkov, Professor Dr. Olga Petkova

(Business Administration, ECSU)

“A Design Science Multicriteria Approach for theion of IS Outsourcing Providers”

The importance of decisions on implementing Information systems (IS) outsourcing is related to the huge costs associated with them. This research deals with the choice of a vendor which is complex and involves many criteria and different variables. The selection of vendors in IS outsourcing has been extensively researched in the IS outsourcing literature from the point of behavioral research. The most detailed analysis of outsourcing supplier capabilities in behavioral IS research is provided by Feeny, Lacity and Willocks. On the other hand, various quantitative methods for it have been developed by researchers in industrial engineering and operations research but these have not found wide acceptance in the traditional Information Systems field.

Following the recent work of Hevner, Peffers and others on Design Science and IS, we present a design science inspired approach to the problem of selection of a vendor in IT outsourcing that integrates ideas from behavioral IS research and quantitative decision making . The design science artifact is developed using the Analytic Hierarchy Process (AHP), a multi-criteria decision analysis (MCDA) approach by Saaty.

The hierarchy for selection of a vendor has at second level three criteria: contribution to Delivery Competency, contribution to Transformation Competency and Relationship Competency. The third level has the sub-criteria Vendor Technical Capability, Vendor Methodological Capability, Contract Negotiation Capability, Client Management Capability, Domain Capability, followed by the intensities for measuring the criteria and at the fifth level are the possible IS outsourcing vendors.

The suggested process to apply the model in a particular organization is summarized below:

1. Identify the decision problem and the stakeholders.
2. Define the criteria and factors for the outsourcing vendor selection model on the basis of behavioral IS research.
3. Gather relevant data on the vendors.
4. Provide pair-wise comparisons of the criteria by managers
5. Conduct a series of meetings with groups of stakeholders to capture their values in the form of judgments regarding the pair-wise comparisons between the factors in the hierarchy.
6. Use AHP software for calculations of priorities.
7. Conduct simulation of various what-if scenarios that explore the impact of different criteria weights.
8. Make an informed decision and communicate it.

Note that steps 1 and 2 above correspond to similar steps in the general design science process defined by Peffers et al (2008) while steps 3-6 correspond to steps 3 and 4 suggested by Peffers et al (2008).

We conclude that design science concepts provide a stimulus for exchange of ideas between design science and behavioral IS researchers. Our model integrates the findings from the most significant empirical research in IS outsourcing to date including those of Feeny, Lacity and Wilcocks with the methods of MCDA and design science. The AHP approach provides a richer multidimensional perspective for understanding outsourcing decisions in a particular situation.

Professor Dr. Olga Petkova, Graduate Student Mr. Mark Pisano, Graduate Student Mr. George Porter, Graduate Student Mr. Matthew Quinn

(MIS, CCSU)

“Application of Social Networking Media for Small Business”

Small business owners today are faced with an increasing array of choices to devote time, employee resources and money against new and emerging advertising mediums. Information Technology (IT) has become an integral component of the advertising mix. Businesses, both small and large, are looking carefully at social media to determine the right mix of effort needed to capitalize on the new medium without straying from the fundamental mission of the individual business. Business owners need to zero in on an appropriate degree of adaptation to achieve balance in resources devoted (both time and money) against return.

This paper examines the current degree of adoption of social media in small business, examines the practical approaches (with emphasis on the information technology deployed) and channels selected. The intent is to determine models and best practices from a base of experienced users, using both primary and secondary research data, to relate those experiences in summary fashion and through case study, implement social media and analytic tools to form a base of relevant experiences.

Social media topics included are: blogs, microblogs, social networking, media sharing, ratings, reviews and measurements. Examples of some of the more popular applications that are examined include: Facebook, MySpace, Twitter, Google (Analytics, SEO, Alerts...) and LinkedIn. The project includes a literature review of recent publications concerning social media, the results and analysis of small businesses that were interviewed regarding their current and future planned use of social media marketing, and a case study of a small business’s implementation of social media applications on to their business web site.

Project participants contacted 37 businesses that ranged in size from small business to very small businesses, and interviewed them to obtain primary survey data. Responses are categorized by industry, seeking patterns, trends and best practices. Particular emphasis is placed on determining the prevalent technologies, tools, methods and practices of measuring return on investment from implementation of social media. The goal is to determine why a small business uses social media, how it is implemented, maintained and measured. Survey findings indicate certain practices provided a competitive advantage; best practices are recommended based on these results.

In order to better understand a small business owner’s perspective, a case study including implementing of a social media presence for a small business was conducted. Previously the business didn’t have social media exposure. The effectiveness of the use of social media was also measured.

Additionally, to help small businesses to utilize the finding of this study for their benefits, a web site was created. This website contains the information on all of the research and findings of the project, along with user guides to help a small business implement the social media networking.

Associate Professor Dr. Irena Pevac

(Computer Science, CCSU)

“ESRATEA Educational Software for Recursive Algorithm Time Efficiency Analysis”

We present ESRATEA Educational Software for Recursive Algorithm Time Efficiency Analysis. The package was developed with the intention to provide a tool that can help learners master the traditionally difficult topic. The potential users are students taking an algorithms course who need practicing examples to master recursive algorithms’ time performance analysis. The current version contains 40 recursive problems. Problems are implemented in Java, and grouped into chip-and-conquer, chip-and-be-conquered, and divide-and-conquer type of algorithms. Initially, learner selects the problem type, and the software randomly picks one example from the corresponding list. Next, the learner performs time efficiency analysis for that example by specifying problem size, basic operation, recurrences, and finally, derives the solution for

recurrences in order to determine algorithm's running time. The ESRATEA grades the level of learners' knowledge, and provides solutions upon request. In addition to tutoring and grading features it helps building deeper knowledge formation. The ESRATEA provides a graphical example that is representative of the entire class of other performance equivalent examples that share the same recurrences and consequently have the same running time. It is expected that after practicing, a learner will start recognizing the relationship among the pattern of code, the recurrences type, and the running time type for the given problem and the associated graphical example.

Associate Professor Dr. Joshua M Rosenthal

(History and Non-Western Cultures, WCSU)

"Capoeira - African Brazilian culture and contemporary globalization."

This presentation is intended to survey my work on capoeira, an African Brazilian cultural form which is generally thought of as a mix of a fight and a dance. While most historians working on capoeira - and capoeiristas themselves - focus on exploring its past with an emphasis on its origins, I have considered the art's place in a globalizing world. In reviews and essays published in edited collections I have considered how capoeira has been produced by globalizing forces while contributing to globalization, and the way that the art's history is represented on the web. More recently with CSU/AAUP support I travelled to Mozambique to consider the dynamics of Lusophone globalization; how this practice functions within the specifics of cultural exchange in the Portuguese speaking world. This will be my first presentation on that trip.

Assistant Professor Dr. Maureen Ruby, Assistant Professor Dr. Ann Anderberg

(Education, ECSU)

"An IHE/LEA Research Partnership: Closing the Achievement Gap Through Differentiated Professional Development for Preschool Educators"

This paper describes preliminary results from an Early Reading First (ERF) project that is closing the achievement gap between English and Spanish speaking preschool students and supporting teachers through professional development and embedded literacy coaching related to early literacy development, curriculum, instruction, and assessment. An Institution of Higher Education (IHE) and a Local Education Agency (LEA) developed a research partnership that is transforming 15 preschool classrooms serving low-income families into sites of educational excellence. Classrooms from English, transitional bilingual, and dual language programs are represented in the study. After intensive classroom language and literacy interventions and professional development of teachers and support staff, improvements in both outcomes on English assessments of early literacy for both English and Spanish speaking children and on a Teacher Knowledge Test (TKT) for teachers and paraprofessionals were seen.

Assistant Professor Dr. Maureen Ruby, Assistant Professor Dr. Brandon Monroe

(Education, ECSU)

"Preparing Classroom-Ready Teacher Candidates: Alignment of University Instructional Materials with District Reading Curricula and Assessments"

This study is a step toward closing the perceived gap between the preparation of elementary educators for teaching literacy and the expectations of districts. By identifying curriculum and assessments used in cooperating districts, informed faculty can incorporate specific clinical tools into teacher preparation coursework. By providing a seamless connection between the theory, pedagogy, and practice found in the university classroom and that found in elementary classrooms, candidates become more "classroom ready". The teacher preparation will be better prepared to provide the evidence of program outcomes required by NCATE ("what candidates know and can do"). Faculty, schools, and students will have a common knowledge base and language regarding literacy instruction and assessment.

Assistant Professor Dr. Patrick Ryan

(Writing, Linguistics, and Creative Process, WCSU)

"Toward a Grammar of Style for College Writers"

Last year, a group of internationally distinguished educators published *Beyond the Grammar Wars* (Terry Locke, ed.; New York & London: Routledge, 2010). After providing historical perspectives on the teaching of English grammar in the schools of England, Scotland, the United States, and Australia, this collection of essays surveys current research regarding the

effects of grammar instruction on students' writing. The review of research confirms the longstanding conclusion that the traditional approach to teaching grammar in isolation from the writing process has not been shown to work. Later chapters of the book offer general guidance for composition instructors to integrate grammatical knowledge effectively into writing workshops. Informed by research on the use of transformational/generative linguistics, I describe my ongoing efforts to integrate the knowledge of grammar into writing workshops devoted to developing the student writer's style by expanding his or her understanding of relevant syntactic structures. In my proposed poster presentation, I display graphics representing these structures alongside sentences that students revised after study of the structures.

Dr. Teresa Samuelson, Professor Dr. Marcia Delcourt, Dr. Gary Rosato, Dr. Jessica Devine

(Education and Educational Psychology- Instructional Leadership, WCSU)

"An Examination of an Early Intervention Reading Program Focusing on the Progress Monitoring of Literacy Skills and the Reading Self-Concepts of Struggling Readers"

The purpose of this study was to examine progress monitoring, reading self-concept, and the literacy skills of first and second grade struggling readers. Progress monitoring is an instructional process used by teachers to assess students' academic performance on a regular basis, typically weekly or monthly. When based on the skill level of the student, the targeted remediation, and the goals of the intervention, progress monitoring may be used with various reading interventions. The use of progress monitoring is central to good decision-making in a Response to Intervention model.

Academic self-concept has become an integral part of education. Connections have been made regarding academic achievement and academic self-concept. Self-concept specifically of reading is vital in the primary years when the main focus of education is learning to read.

This study utilized a quasi-experimental research methodology as well as a correlational design. The sample size of 40 participants consisted of approximately 19 students in the experimental group and 21 students in the comparison group. All students in the experimental group participated in a reading support program with a Language Arts Consultant (LAC). The LAC's participated in training utilizing progress monitoring and incorporating biweekly follow-up, specific to each individual student's daily interventions. Students met in groups of three, for 30 minutes, four to five times per week. All struggling readers in the comparison groups were seen in small groups for 30 minutes, four to five times a week. They were instructed by an Early Literacy Tutor (ELT) who had not been trained in and did not utilize progress monitoring.

A two-group multivariate analysis of variance (MANOVA) was conducted utilizing core reading words, core writing words, phonemes, and spelling, as the four dependent variables measuring literacy skills. These are four of the nine scores yielded from the Dominic Reading and Writing Assessment Portfolio (DeFord, 2004). The independent variable of reading support group consisted of two levels, progress monitoring and no progress monitoring. Results indicated no significant differences in group means of core reading words, core writing words, phonemes, and spelling.

A standard multiple regression procedure was conducted consisting of progress monitoring and reading self-concept as the predictor variables, and literacy skills, as measured by core reading words, as the criterion variable. The Reading Self-Concept Scale (Chapman & Tunmer, 1995a) was utilized to measure struggling readers reading self-concept. Results indicated no significance in progress monitoring and reading self-concept as predictors of students' literacy skills.

**Dr. Patricia-Ann Schullery Corso, Associate Professor Dr. Kathryn Campbell,
Professor Dr. Karen Burke, Professor Dr. Robin Flanagan**

(Education and Educational Psychology- Instructional Leadership, WCSU)

“The Effects of an Anti-Cyberbullying Program on Decreasing the Number of Aggressive Experiences for Students While Using Digital Technology”

This study examined the effect of an anti-bullying program, Cyberbullying: A

Prevention Curriculum for Grades 6 – 12 (Limber, Kowalski & Agatston, 2008). A quasi-experimental post-test design was used to investigate (a) whether or not participation in the program was related to the frequency of aggressive on-line experiences for victims and/or offenders, or cyberbullying, and (b) whether the mode of program delivery (student-led versus teacher-led) had an effect on frequency of aggressive on-line experiences for victims and/or offenders, or cyberbullying. The student led experimental group, as well as the teacher led experimental group, received Cyberbullying: A Prevention Curriculum, while a control group completed team building activities not related to the topic of bullying. The sample population consisted of 154 students in middle school from a middle to upper middle class school district in the Northeast. At the conclusion of the study, all participants were administered the Cyberbullying and Online Aggression Survey Instrument (Hinduja & Patchin, 2007) to measure their experiences with on-line aggressive victim and offender experiences. Data were analyzed using four chi-square tests of independence analyses. Results showed that, overall, participation in the program was associated with fewer than expected on-line victim and /or offender experiences when an anti-cyberbullying program was implemented. However, when expected and observed frequencies for student-led and teacher-led groups were compared, participation in the program led by a student leader was only associated with fewer than expected on-line victim and/or offender experiences on the offending subscale.

Undergraduate Student Ms. Erika Sgambato, Professor Dr. Doncho Petkov

(Social Informatics minor, Social Work major, ECSU)

“Facebook usage by ECSU students and why it matters”

Facebook and other social networking sites foster a sense of community in campus life according to various researchers. Ellison et al have proposed Facebook Intensity - a new scale for measuring the usage of this social networking site, revealing not only how often students use it but also the extent to which they are emotionally connected to Facebook and how the latter is integrated in student life. We have used an instrument derived from the one applied in Ellison’ paper to investigate several issues associated with Facebook usage by ECSU students, satisfaction with life at ECSU, and measures of bridging and bonding social capital. Bridging social capital is defined by Putnam as benefits from “weak ties,” which are loose connections between individuals who may provide useful information or new perspectives for one another but typically not emotional support while bonding social capital is found between individuals in tightly-knit, emotionally close relationships, such as family and close friends.

A questionnaire was distributed to both residential and non residential undergraduate students at ECSU. Junior and senior level students with experience on the ECSU campus were chosen to represent a sample of majors reflecting the diverse nature of the student body at this public liberal arts university. This paper reveals in more detail our findings on Facebook intensity and its dimensions and the relationships between various demographic characteristics and the level of satisfaction with student life at ECSU. A number of questions whose answers allow measuring the bridging and bonding social capital of students as a result of participating in this popular social networking site. We discuss the students’ responses and compare them to a similar survey conducted at Michigan State University. Potential recommendations for better integration of Facebook in ECSU campus life are derived.

Assistant Professor Dr. Lara Smetana

(Education, SCSU)

"Influences of a Collaborative Teaching Experience on Pre-service Elementary Science Teachers' Self-efficacy: A Pilot Study"

Increased attention is being given to the teaching of science as inquiry. Yet, elementary teachers continue to struggle to understand what inquiry is and how to effectively plan and implement activities that support high levels of inquiry. Collaborative learning experiences that take place under a university-school partnership may support the development of beginning elementary science teachers by positively contributing to their science teaching self-efficacy. The purpose of this pilot study is to explore how the collaboration of in-service and pre-service teachers enhances beginning teachers' self-efficacy regarding their ability to incorporate inquiry-based science lessons in their future classrooms. Participants include those pre-service elementary teachers enrolled in a onesemester elementary science methods course. Partnered with self-selected K-6 in-service teachers from the university's PDS Network, they attended collaborative instructional sessions devoted to more fully understanding inquiry as outlined by the NSES and applied to the elementary classroom. Together, the pre-service and in-service teachers design action plans for the incorporation and assessment of specific, standards-based inquiry activities in the practicing teachers' classrooms during one instructional unit. Self-efficacy beliefs are measured pre-and post-instruction with the Teaching Science as Inquiry (TSI) instrument. Results of the pilot study will inform subsequent investigations.

Assistant Professor Dr. Jason Snyder, Professor Dr. Joo Eng Lee-Partridge, Graduate Student Mr. William Davis

(Management Information Systems, CCSU)

"Testing the Hurricane Model to understand employee choices when sharing knowledge in work teams"

The present study continues a line of research that aims to understand the factors influencing employees' choice of information and communication channels (ICC) when sharing knowledge with team members. In other words, we want to know what causes employees to choose to use one channel over another when sharing knowledge in teams. So, why might one decide to send an email rather than have a face-to-face conversation with a team member?

Researchers have forwarded models to prescribe channel choice (e.g., Daft & Lengel, 1984; Fulk, Steinfeld, Schmitz, & Power, 1987). These models, however, have been critiqued for a number of limitations, including lack of evidence (Rice & Gattiker, 2001).

In an effort to overcome these limitations, we reviewed literature from management information systems, communication, and management and conducted a study (Snyder & Lee-Partridge, 2009) in order to develop a model. The result was the Hurricane Model of ICC choice in team knowledge sharing (Snyder & Lee-Partridge, under review).

The present study represents our first attempt to test the Hurricane Model. We use the hurricane metaphor because the model is comprised of four concentric circles. Each circle represents a group of factors that impact ICC choice for team knowledge sharing. The inner circle represents employee preference and ICC efficacy (Carlson & Zmud, 1999; Timmerman, 2002). This circle represents the ICC choices that employees would make if they considered nothing but their own preferences and convenience. The second layer adds complexity to ICC choice. In this layer, we argue that employees consider the ability of each ICC to carry their message effectively, and the audience being targeted (e.g., size, location, preferences; Rogers, 2003). The third layer represents the impact of crossing boundaries on ICC choice (Levina & Vaast, 2005). Finally, the outer layer of the hurricane represents the influence of organizational and teams norms on ICC selection (Kankanhalli, Tan, & Wei, 2005).

To provide an initial test of the Hurricane Model, we conducted a series of 13 semi-structured interviews with a diverse group of employees. During the interviews, we asked participants to: a) describe a team in which they recently worked, b) describe the importance of knowledge sharing, and c) tell us about communication in the team. The sample comprised men and women from a number of industries (e.g., insurance/finance, industrial/aerospace, public safety, social work), with tenure ranging from one year to 28 years, and ages ranging from 20s to 40s.

We made audio recordings of the interviews, developed a coding plan, and independently analyzed the interviews until we reached a level of agreement of 80%. A third reviewer with no knowledge of the model is currently analyzing the interviews. The preliminary results offer support for the model and also suggest refinements. Data analysis will be complete before the faculty research conference, and we hope to share the results with you then.

Assistant Professor Ms. Monica Sousa

(Nursing, WCSU)

“Relationship of Nurse to Patient Ratio, Length of Stay, and Nursing Burnout on Two Units”

Nursing is noted to be among the top ten most stressful jobs. Consequently, understanding burnout is a major concern with the nursing profession. Burnout is defined as the exhaustion of physical and emotional strength and motivation resulting in prolonged stress and frustration (Maslach, Jackson & Leiter, 1996). The purpose of the study was to investigate the relationship of nurse to patient ratio, length of stay, and the degree of nursing burnout on a cardiac unit and a rehabilitation unit. By using the Maslach Burnout Inventory Human Services Survey to measure burnout, and a demographic form, the researcher analyzed the relationship between nurse to patient ratio, length of stay, and nursing burnout. Hospital records from each unit were used to determine length of stay, number of patient transactions (admission, discharges and transfers), and the nurse to patient ratio. The study compared the results from the cardiac unit to those of the rehabilitation unit. Kramer’s Reality Shock Theory and Herzberg’s Motivation-Hygiene Theory are the theoretical frameworks chosen for this study.

The population for this study consisted of nurses working on the 26-bed cardiac unit, and a 14-bed rehabilitation unit. Out of the thirty-one nurses on the cardiac unit who were asked to participate, 25 (80%) participated in this study. On the rehabilitation unit ten out of the total 18 nurses (56%) participated in the study. The total number of participants was 35. Based on exploratory independent samples t-test analysis, it was interesting to note, that although there were no significant differences in age, years worked at the current facility and hours worked per week, there was a significant difference ($p < .05$) between the number of years as a nurse on the cardiac units (8.5 years) and the rehabilitation unit (25.5 years). Analysis of the demographic data by independent samples t-test and one-way ANOVA had no significant differences in any of the subscales on the MBI. A chi-square analysis was conducted to examine theoretically expected results compared to the observed results for each of the three subscales on the MBI. The analysis indicates there are no statistical differences ($p > .05$) for the emotional exhaustion or the personal accomplishment subscales for shift or unit. However, the depersonalization scale generated low scores that were significant on one shift ($p < .05$). This indicates that there is a difference between the theoretical expected and the observed. Further standard residual analysis determined that the variables that showed significance was the night shift on the rehabilitation unit. Their depersonalization score is significantly lower than the other groups, indicating they are less likely to burnout based on the depersonalization subscales. However although the sample was statistically significant ($p < .05$), the sub-sample was small ($N=3$).

Professor Dr. Leah G. Stambler

(Education & Educational Psychology, WCSU)

“Insights into Five Centuries of Gender and Ethnicity Challenges To Women of Diverse Populations Serving in the American Armed Forces”

What have been the impacts of societal perspectives and discrimination regarding gender, ethnicity, color, and class on diverse American women [e.g. Native American, African American, Asian Pacific, and Hispanic American] in the armed forces between the 17th and 21st centuries? The “official” history of women in the US military begins in the 20th century with the establishment of the army nurse corps in 1901. That history records almost one-half million women who served in wartime and 1.2 million women veterans counted by the 1990 census. The “official” history ignores tens of thousands of women who have served the military since this country’s founding. Contemporary women in the armed forces who engage in combat are subjected to additional challenges of “balancing family life with a military career, inadequate military health care specifically for women, high rates of sexual assault and harassment, and opportunities for career advancement.”

Professor Dr. Moses Stambler

(Social Work, SCSU)

“Religious Affiliated Muslim Charter Schools: Challenges to the Role of Education in Assimiation and Integration of Youth into American Society”

Public support for charters with religious affiliation is radically changing the nature of American public education and society and challenging our practice of religion-state separation. In 2010, there were 4,936 publicly supported charter schools operational in forty-one states, with over 1,665,779 million students. The number of charters currently is increasing, encouraged by President Obama’s Race to the Top education program. Among these public supported charter schools are culture based schools of Christian, Jewish, or Muslim religious affiliation. In particular, religious affiliation of 375 Muslim charter schools poses a unique problem for the principle of separation and public support for schools’ role in Americanizing, assimilating and integrating youth of different cultures into American society. Over 90 primary and secondary Muslim affiliated charter schools with public support in 20 states are reportedly connected to the Turkish Islamist Fethullah Gulen movement. There are approximately 450 private Muslim religious schools in the U.S.A.

Professor Dr. Sudha Swaminathan, Graduate Student Ms. Meghan Ryczek

(Education, ECSU)

“Handheld vs. Desktop Computers: Effective Usage by Preschoolers in Natural Learning Environments”

The proliferation of educational technology tools has made it critical for educators to examine the effectiveness of each tool before implementing them in the classroom. This particular research project aimed to scrutinize one such tool, the iPad. To fully understand children’s competence, we documented and compared preschooler’s social and cognitive interactions with two educational technology devices, a handheld computer (the iPad) and the desktop computer. During a pilot study, a rating scale to evaluate apps for the iPad was developed and several freely available apps were examined. The rating scale evaluated the apps on four dimensions, namely, educational value, social interactions, engagement and technical design. Using this rating scale, several educational, creative and game-oriented apps were evaluated and three were selected for use in this project. Select children (n=8) were alternatively introduced to three different iPad apps or applets on a desktop computer and encouraged to engage in the activity independently for a minimum of 20 minutes. These three apps/applets covered areas of creativity, cognitive (Math skills) and literacy. Children’s interactions were documented using a participant observation methodology and measured on five dimensions, namely ease and comfort of use, duration of usage, frequency of socialization, vocalizations and problem solving. The results clearly indicate that the touch screen of the iPad affording direct contact with the activity, rather than through the mouse, was uniformly favored by the children. Children spent significantly longer time with the iPad, even allowing for novelty effect. Social interactions were seen in both environments but the iPad elicited more vocalizations and initiations. In terms of the apps/applets, the children preferred the iPad for creativity, drawing freely with their fingers. The cognitive app was too difficult for these young children while the computer applet was definitely more appealing. Literacy was not engaging in either device, for any number of reasons, including the fact that most literacy apps and applets are prescriptive and not creative. Implications of this study favor the use of the iPad in preschool classrooms but also call for the development of more appropriate and creative apps for young children.

Professor Dr. Sudha Swaminathan, Professor Dr. Jeffrey Trawick-Smith, Graduate Student Ms. Kelly Zimmerman, Graduate Student Ms. Claire Fryer

(Education, ECSU)

“Teacher-Child Interactions during Preschool Play: Impact on Children’s Mathematical Ability”

Socio-cognitive studies in the classroom have long determined that both social and cognitive interactions impact the development of children’s mathematical thinking. These studies have not only underscored the value of effective verbal interactions within the context of children’s learning environments; but they have also generated an appreciation for the complex network of interactions that exist in any classroom. The focus of our study was to examine one aspect of this complex interactional pattern—teacher talk—within the context of a preschool play environment and to study its effect on preschoolers’ math ability. The research was conducted in a diverse accredited preschool program, with 4 teachers and 60 children. Using the NCTM Math standards for content analysis and a scaffolding model for interaction analysis, this research first developed a framework to examine and analyze teacher interactions. Later, this framework was utilized in a second large-scale study to capture and code teacher-child interactions in order to determine the effects of various types

and levels of scaffolding on children's mathematical learning and development. Teacher's guidance was coded to determine if they primarily offered direct vs. indirect guidance, continuously or intermittently during the interaction with the child and the specific Math standard that their interactions was focused on. Children's behavior was coded to determine the extent of assistance that they needed from the teacher. Finally, teacher's behavior was juxtaposed against children's behaviors to determine if the teacher's mathematical interactions were a good-fit for the child's development. Results of this study help identify new approaches to advance the learning and development of young children. With its focus on teacher-child interactions, this research provides practitioners with usable knowledge about the teaching of mathematics and a new framework for self-analysis.

Assistant Professor Dr. Jeff Thomas, Professor Dr. Marsha Bednarski

(Physics and Earth Science, CCSU)

"Developing Teachers' Interdisciplinary Pedagogical Content Knowledge of Local Watersheds"

A major issue in science education has been to improve scientific literacy. To address this issue, professional development (PD) for inservice teachers generally has focused on developing teachers' content knowledge in order to improve student achievement in science. Many successful PD projects include discipline-specific interventions and learning science through inquiry. Making connections among the science disciplines, however, has been given less attention. Thus, there is a need to improve our understanding of teachers' interdisciplinary pedagogical content knowledge and see if they can translate this thematic approach to teach science in order to improve student achievement. The Connecticut River Valley served as the thematic context for this PD. Guided by an interdisciplinary science faculty team, twenty-three teachers investigated the earth, life, and physical features of this watershed. This exploratory mixed-method case study examined teachers' interdisciplinary science content knowledge over the course of one year to determine if these teachers could successfully implement this approach as part of their instruction. Initially, a pretest assessed teachers' interdisciplinary content knowledge prior to the content sessions. This was followed by a posttest shortly after the summer and fall content sessions. A final posttest was given at the end of the PD project. Concurrently, artifact data was collected, including lesson plans, assessments, and student work to evaluate if teachers implemented instruction that made connections among the science disciplines. Although teachers' content knowledge improved over the year-long PD, very few teachers implemented instruction that made interdisciplinary connections. The results highlight the need for additional research in examining how to help teachers transfer and implement their interdisciplinary content knowledge to their classroom instruction in order to improve student achievement.

Assistant Professor Dr. Heather Urbanski

(English, CCSU)

"The View from the Other Side: The Student (and/versus) Writer at CCSU"

What is it like to complete a college-level writing course when you've been told that you "can't" write? What is it about writing that causes so many of our students to declare they "hate writing" and to actively avoid the task at all cost? In an era of continual, and increasingly hyperbolic, claims that students can't write, and the corollary complaint that we are failing to teach them this "basic" skill, one voice is consistently missing: the students themselves.

My research, being conducted during the Spring 2011 semester, uses case study and survey methodologies to begin to correct that oversight, from the perspective of a particular group of students: Resistant Writers. These students see a writing course as an obstacle and expect to struggle in it even though they do not struggle, or at least do not expect to, in other classes. They see writing courses as classes to "get through" instead of a valuable step in their academic careers.

While this is not a monolithic group, with a singular background or set of experiences, Resistant Writers do share several identifiable characteristics: a quantitative-based major (e.g. engineering, finance, biology), an avoidance of and profound distaste for writing, and relative success in education (even in English classes). My research, therefore, is not focused on the "under-prepared" student nor am I looking to better understand those students who struggle with writing because of language acquisition difficulties. Both of these groups of student writers have been and continue to be ably described by the work of other scholars. Rather, I am interested in discovering the experience of those students in the middle, who stand out neither as stellar writers nor as writers in serious need of remediation. The Resistant Writers I am looking at succeed in school; they just struggle with their writing, for no easily discernible reason.

The goal of the ongoing study, then, is to describe in detail the difficulties and successes that Resistant Writers experience in writing courses and then propose specific pedagogical recommendations for the field as a whole, and CCSU's program in particular.

This research poster will review the initial findings from the Spring 2011 case study conducted with support from a CSU-AAUP research grant. The study will still be ongoing during the April 2011 conference so the poster will use both traditional visual as well as multi-media components to present preliminary results and analysis of the student perspectives captured over the semester through a combination of student-generated logs/self-reflective journals, follow-up interviews based on the logs, and in-depth interviews to gather pre-semester academic background.

Assistant Professor Dr. Lisa Vitale

(World Languages, Italian, SCSU)

"Deprivation and Fullness: the Dietary Dialectics of Catherine of Siena"

The fourteenth-century Italian mystic Saint Catherine of Siena had peculiar a relationship with food. Fast and feast, deprivation and fullness, loss and gain, separation and incorporation unite through food and drink in Catherine's language and in her practice to express the fundamental incarnational and Trinitarian theology inherent to Christianity. Through symbols of food and its rituals, she expresses her sublime ideas about the Christian God.

Assistant Professor Dr. Steve Watton, Undergraduate Student Mr. John Lusignan,

Undergraduate Student Dr. Adam Krakowiak, Undergraduate Student Dr.

Christopher Rosenberg

(Chemistry and Biochemistry, CCSU)

"Solution and Solid State Behavior of Copper Bis-Phenanthrolines - Solvation/Desolvation Equilibria"

Copper phenanthrolines are a well-known class of transition metal complexes, which are of interest for a number of applications such as molecular biology and molecular photophysics. The bis-phenanthroline complexes of copper(II) in which the phenanthroline ligands bear substituents at the 2- and 2/9- positions (adjacent to the metal-binding sites) show particularly intriguing behavior. X-ray structures of five-coordinate complexes in which the fifth ligand is a bound solvent (acetonitrile) molecule exhibit strong distortion at the copper centers due to steric crowding. As a consequence of these steric interactions the complexes show a strong tendency to lose the fifth ligand, either by ligand loss in solution, by ligand loss from the solid state, or by being reduced to afford the copper(I) analog, apparently with water acting as the reducing agent; a very unexpected outcome.

Dr. Fu-Shang (John) Wei

(Department of Engineering, CCSU)

"Identification of Servo-Flap Rotor Blade Design Parameters"

A servo-flap is a small airfoil located on the trailing edge of the blade at 75% radius. Aerodynamic action of the flap moves the helicopter blade angle of attack, thereby producing the required lift and propulsive force in flight. For an external servo-flap rotor design, the flap is separated from the main rotor blade. Traditionally, the external servo-flap has been considered a control surface, not a lifting surface. This paper treats the external servo-flap aerodynamic surface as part of the main rotor blade, in addition to a control surface, which significantly affects the blade solidity and performance calculation. Four different servo-flap locations are investigated to evaluate the impact on blade thrust weighted chord and rotor performance. The equivalent thrust weighted chord increases ranging from 7.3% to 10.7% with the existing servo-flap size. For a 6" longer servo-flap length design, the overall equivalent blade chord increase will range from 9.5% to 12.2%. The higher the positive servo-flap angle is, the less the blade angle of attack required to produce the same amount lift on the blade. The best hover performance is achieved at around 2° servo-flap angle and 4.7° blade angle of attack under lift coefficient $CL=0.6$ flight condition or at around 4° servo-flap angle and 5.6° blade angle of attack under lift coefficient $CL=0.8$.

Assistant Professor Dr. Allison Weinstein

(Environmental Earth Science, ECSU)

"Mineralogy, Petrology, and Structure of Atlantis Massif, Mid-Atlantic Ridge"

IODP Expeditions 304/5 drilled into Atlantis Massif, MAR 30°N, at several sites to a total depth of ~1.5 km, recovering a variety of basalt and gabbroic samples. We use the shallowest series of samples to test current theories of ocean lithosphere formation at slow-spreading ridges during periods of spreading dominated by volcanism and those dominated by tectonic extension. Additionally, we provide a model to explain the chemical relationship between basalt and gabbroic lithologies. Results from our model show that major elements of basalts at Atlantis Massif can be modeled as the remaining

liquid after low-pressure (<3 kb) crystal fractionation of a primary melt. In addition, major elements from gabbroic lithologies appear to reflect near cotectic and eutectic crystal fractionation, without trapping evolved liquids. We conclude that periods of spreading dominated by rifting are highly intrusive, and that the composition of these magmas does not differ from those produced during a "normal" spreading period.

Dr. Ana Zabler, Assistant Professor Dr. Frank LaBanca, Professor Dr. Marcia Delcourt, Dr. Jean Delcourt

(Education and Educational Psychology- Instructional Leadership, WCSU)

"Effects of Listening Strategies Instruction on Listening Comprehension, Oral Proficiency, and Metacognition on Second Language Learners"

Second language programs in the 21st century need to provide students with the linguistic and cultural skills they need to communicate proficiently in a global community. Therefore, curriculum and instruction must focus on developing all four skills needed for language acquisition: listening, reading, speaking and writing. However, the skill of listening has often been overlooked in the second language classroom; teachers have assumed that language learners know how to listen effectively and little attention has been paid to teaching the skill. A strategy-based approach could give second language instructors the tools necessary to provide learners with the knowledge, support and practice they need to enhance their language gains.

Based on this premise, this study examined the potential benefits of explicit instruction on listening strategies in the Spanish classroom, using authentic materials for a period of 8-weeks. It measured students' comprehension of aural input, oral proficiency, and metacognition. The explicit instruction of listening skills involved five steps: (a) training Spanish teachers on listening strategies, (b) selecting authentic materials, (c) assessing students' listening comprehension, oral proficiency level, and metacognitive listening strategies use, (d) implementing strategy instruction, and (e) post-evaluation of student listening comprehension, oral proficiency, and metacognitive strategy use. Using a sample of convenience in which n = 97 students, at two different school sites and belonging to two different District Reference Groups (DRGs), this study assessed the impact of listening strategies in six classes among heterogeneously grouped students in freshman levels II and III Spanish classes.

This study had a Quasi-Experimental Control-Group Pretest-Posttest Design and used the following instruments to determine the impact of listening strategies instruction: the Minnesota Language Proficiency Assessment (MLPA)'s Contextualized Listening Assessment (CoLA) to assess listening comprehension, the Simulated Oral Proficiency Interview (SOPI) in Spanish to measure oral proficiency, and the Metacognitive Awareness Listening Questionnaire (MALQ) to determine the use of metacognitive strategies.

Findings from one-way analysis of variance (ANOVA) and one-way analysis of covariance (ANCOVA) using the listening comprehension and metacognitive awareness pretests as covariates, showed statistically significant differences between the experimental and the comparison groups on the oral proficiency variable. Thus, students who were exposed to the explicit instruction of listening strategies were impacted by the program. Finally, this study provides teachers with guidelines and materials on how to implement a strategy-based program in a second language classroom.