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13th Annual Governors State University Student Research Conference Proceedings

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Proceedings of the
13th Annual
GSU Student
Research Conference
Wednesday
May 23, 2007
9 a.m. - 5 p.m.

Editor:
Shelly Kumar
Division of Science
College of Arts and Science

Governors State University
Proceedings of the 13th Annual GSU Student Research Conference

Governors State University
University Park, IL 60466

May 23, 2007

Editor:
Dr. Shelly Kumar
Division of Science
College of Arts and Sciences
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Students of
Governors State University

College of Arts and Sciences
College of Business and Public Administration
College of Education
College of Health Profession
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13th Annual GSU Student Research Conference, May 23, 2007
May 23, 2007

Dear Student Researcher:

Welcome to the Annual Governors State University Research Conference. We are proud of the excellence, expertise, and variety of your research presentations. Thank you for sharing the results of your research with the GSU academic community.

Scholarship encompasses many types of research: the basic research of discovery, applied research, pedagogical research, and integrative research. The projects presented at this conference include all of these. The common thread shared by each is the creation of new knowledge.

Congratulations to our presenters, their advisors, and their professors. We share in your joy of discovery and are proud to count you as members of the GSU community.

Thank you for participating in our research conference and sharing with us your discoveries and the creation of new knowledge.

Sincerely,

Stuart I. Fagan
President
A MESSAGE FROM THE CONFERENCE
STEERING COMMITTEE

The steering committee is pleased to announce the 13th Annual GSU Student Research Conference to be held on May 23, 2007. For the past twelve years this conference has become a tradition in excellence, and we are confident that today again we will witness another session of quality presentations by our students. This conference will be presented in its original format and with its original objectives:

1. To provide students an opportunity to present their research work before an audience of their peers, and to use the comments they receive to improve presentations made at professional conferences.

2. To provide a forum to highlight research accomplishments at GSU, and honor students presenting their research work.

3. To generate enthusiasm among the student body in general, and encourage them to pursue research and other scholarly activities.

4. To enhance communications in the area of research among the four colleges at GSU. The interactions may also lead to collaborative work among students and faculty of different colleges.

5. To enhance the image of GSU in the area of teaching, as research is considered an integral part of teaching at the university level. In the long run a larger number of students attracted to research would enroll at GSU to pursue higher education.

The committee hopes that you will enjoy the conference, that you share in the excitement of doing research, and that you will look forward to participating in future student and professional conferences.
KEYNOTE SPEAKER BIOGRAPHY

The Student Research Conference Steering Committee is proud to announce that the keynote speaker for the lunch will be:

**Dr. William Van Bonn, D.V.M.**

Senior Director for Animal Health
John G. Shedd Aquarium, Chicago, IL

Dr. Bill Van Bonn was raised in, on, and around the lakes, ponds and rivers of the state of Michigan. He graduated from the College of Veterinary Medicine at Michigan State University in 1986. Following graduation he was employed at an equine referral surgical practice in Southeastern Michigan where he initiated an arthroscopic surgery service. While still in private practice his aquatic interests lead him to enrollment in the inaugural Envirovet program an intensive, in-residence short course in aquatic animal medicine and environmental toxicology, directed by Dr. Val Beasley of the University of Illinois.

In 1991 Bill was commissioned into the US Army Veterinary Corps and assigned duty at the US Navy's Marine Mammal Program in San Diego. He spent four years on active duty followed by support as a civilian spending almost 15 years with the program where his last position was Managing Veterinarian for Research and Advanced Clinical Technologies. His military awards include the National Defense Medal and the Meritorious Service Medal. In 2005 Dr. Van Bonn accepted the Position of Senior Director for Animal Health at the John G Shedd Aquarium in Chicago. There he provides oversight for the preventive medicine program to over 25,000 individual animals of over 2,500 species.

His duties, responsibilities, and professional interests are focused on preventive medicine and enhanced clinical veterinary services for aquatic animals under human care. He is the current President of the International Association for Aquatic Animal Medicine and has authored numerous scientific articles, abstracts, and several book chapters. Bill enjoys working closely with students. He is founding faculty of Marvet, a short course in marine veterinary medicine. He holds Adjunct Assistant Clinical Professor status at the University of Illinois College of Veterinary Medicine, and serves as client mentor under a master agreement with the Robert R. McCormick School of Engineering and Applied Science at Northwestern University.
THE PARTNERSHIPS AND PARALLELS OF CLINICAL PRACTICE AND RESEARCH: A VETERINARY PERSPECTIVE

William Van Bonn

Senior Director for Animal Health
John G. Shedd Aquarium, Chicago, IL

ABSTRACT

The practice of clinical medicine shares many qualities with research in the conventional sense. Both are discovery processes; directed information gathering to guide decision-making. Both can be frustrating beyond words at times and at times tremendously satisfying. Each relies on the other. Clinical medicine provides many questions to be answered by controlled investigation. Research is aimed at providing answers to these questions and developing tools for the clinician. The clinician must understand the capabilities and limitations of the research scientist and the research scientist must understand the needs and desires of the clinician. The most fruitful and rewarding of arrangements is a close and open communication between the two. In addition, diversity in teaming, bringing together subject matter experts from widely varied disciplines, is exceptionally productive in the discovery processes of medicine and research.

Truly understanding something requires one to compare it to something else. Often that is the basis of experimental design; the case and control, the dependant and independent variables. Veterinarians are by nature experienced in comparative medicine. We compare our patients to human patients, to patients of other species, and to other individuals of the same species. The inability of our patients to verbally communicate with us enhances our information gathering skills. We rely on the discovery process to collect the pertinent clinical data. As a result we often provide unique questions to research scientists to answer and often gain much from the fruits of the research scientists’ labors.

Examples of the synergy between clinician and research scientist from my personal experience base include the discovery of a novel diatom species living only on the skin of dolphins, (Epipellis heptunei Denys et Van Bonn), the isolation of a virus indistinguishable from a virus declared eradicated by the US Department of Agriculture, high-speed video-endoscopy of the sound production mechanism of dolphins, and the development of a fish anesthesia machine. Each of these endeavors required close cooperation and coordination between clinical personnel and research scientists. Students also often play a key role in these activities. They bring unbiased enthusiasm to the work and unique perspective, which so often proves to be highly productive and valuable. Indeed, a team of engineering students completed our fish anesthesia machine development.

This is a world full of unknowns but one thing appears certain to me. We will forever have questions to seek answers to that will both satisfy our scientific curiosity and benefit those to come after us. Working together the research scientists and clinicians of tomorrow will provide answers and develop tools that would truly amaze and astound us.
today. It is an exciting time to be joining in.
PROGRAM SUMMARY

Sherman Recital Hall:

Conference Registration & Continental Breakfast

9:00 A.M. – 9:10 A.M. Welcome and Introduction
9:10 A.M. – 10:30 A.M. Podium Presentations
10:30 A.M. – 10:50 A.M. Refreshment Break
10:50 A.M. – 12:10 P.M. Podium Presentations

Hall of Honors:

12:10 P.M. – 1:00 P.M. Lunch
1:00 P.M. – 1:40 P.M. Keynote Address
1:40 P.M. – 2:10 P.M. Poster Presentations

Sherman Recital Hall:

2:10 P.M. – 2:20 P.M. Certificates Presentation to Student Participants
2:20 P.M. – 3:40 A.M. Podium Presentations
3:40 P.M. – 4:00 P.M. Refreshment Break
4:00 P.M. – 5:00 P.M. Podium Presentations
5:00 P.M. – 5:05 P.M. Concluding Remarks
CONFERENCE PROGRAM

Conference Registration & Continental Breakfast

8:30 A.M.  Sherman Recital Hall

Program Commencement

Sherman Recital Hall

9:00 A.M.  Welcome and Introduction:
Dr. Shelly Kumar
College of Arts and Sciences

Podium Presentations

Sherman Recital Hall

Session I Moderator:
Dr. Frances Kostarelos
College of Arts and Sciences

9:10 A.M.  AN EMPIRICAL STUDY OF EFFECTIVENESS OF DOLLAR COST AVERAGING INVESTMENT STRATEGY, Sho Ohama and Heikki Heino*, Business Administration, College of Business and Public Administration, p. 15.


10:30 A.M.  Refreshment Break

Session II Moderator:
Professor Cynthia Carr
College of Health Profession


11:30 A.M. THE CULTURAL LANDSCAPE OF MOMENCE, ILLINOIS, Kendra Sandstrom and Frances Kostarelos*, Social Sciences, College of Arts and Sciences, p. 21.


Conference Lunch Hall of Honors

12:10 P.M. Lunch

1:00 P.M. Keynote Speaker

Dr. William Van Bonn, D.V.M.
Senior Director for Animal Health
John G. Shedd Aquarium, Chicago, IL

Speaking on:

THE PARTNERSHIPS AND PARALLELS OF CLINICAL PRACTICE AND RESEARCH: A VETERINARY PERSPECTIVE

Poster Presentations Hall of Honors

1:40 P.M. MEDIA AND THE CONFLICTS IN THE MIDDLE EAST, Mercedes Kane and Ana Kong*, Communications and Training, College of Arts
and Sciences, p. 30.

HYDROXYLATION OF 1-BENZYLPIPERAZINE BY A CARBONYL OXIDE, A CHEMICAL MODEL OF CYTOCHROME P-450, Ajaykumar Mallesha and Shailendra Kumar*, Analytical Chemistry, College of Arts and Sciences, p. 31.

HOW MARSHMALLOWS WENT VEGAN IN AMERICA: THE VALUES, TECHNOLOGY AND SOCIAL CHANGE IN FOODS FOR NON-MEAT EATERS, Marimonica Murray and Frances Kostarelos*, Social Sciences, College of Arts and Sciences, p. 32.

RUNNING FASTER TO STAY IN THE SAME PLACE, Nancy Gallegos, Communication Disorders, College of Health Professions, p. 33.

TECHNOLOGICAL VOTING BEHAVIOR: COMPUTERIZE VOTING IN MATTESON, ILLINOIS, Jay Anthony Dobbs II and Frances Kostarelos*, Social Sciences, College of Arts and Sciences, p. 34.

2:10 P.M. Certificates Presentation

Session III Moderator:
Professor Cynthia Carr
College of Health Profession

2:20 P.M. LONG TERM EFFECTS OF STIMULANT DRUGS ON CHILDREN WITH ADHD, Marion Kaes and Darlene Wright*, Psychology, College of Education, p. 23.


3:00 P.M. DIVERSIFYING PORTFOLIOS USING EMERGING MARKETS, Kerry Dean and Heikki Heino*, Business Administration, College of Business and Business Administration, p. 25.


3:40 P.M. Refreshment Break
Session IV Moderator:  
Dr. Akkanad Isaac  
College of Business and Public Administration

4:00 P.M  
PROTECTION AGAINST INEVITABLE VICISSITUDES OF LIFE,  
Erik Cozzolino and Akkanad Isaac*, Public Administration, College of  
Business and Public Administration, p. 27.

4:20 P.M  
THE EFFECT OF MATHEMATICS COURSE PLACEMENT IN  
ELEVENTH GRADE ON THE ACT MATHEMATICS SCORE, Susan  
Donovan and Lisa Chang*, Mathematics Education, College of  
Education, p. 28.

4:40 P.M  
GIRL TALK, Albertina Donaldson and Michael Weuste*, Nursing,  
College of Health Profession, p. 29.

5:00 P.M.  
Concluding Remarks  
Dr. Shelly Kumar
ABSTRACTS OF PODIUM PRESENTATIONS

May 23, 2007

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The authors with underlined names are the presenting authors. The authors with asterisks are the faculty sponsors.

Governors State University
University Park, Illinois
AN EMPIRICAL STUDY OF EFFECTIVENESS OF
DOLLAR COST AVERAGING INVESTMENT STRATEGY

Sho Ohama and Heikki Heino*

Business Administration
College of Business and Public Administration

ABSTRACT

Academics and professionals have suggested many investment strategies for decades, yet no single optimal strategy is known. Formula investing is an investment technique using a predetermined timing or asset allocation model that eliminates emotional biases in decision making. One of the formula investing strategies is Dollar Cost Averaging (DCA), a method of accumulating assets by investing a fixed amount of money in securities at set intervals. The question is whether an investor should invest the entire amount of funds in securities upfront or spread funds over the investment time horizon. This paper will theoretically explore and empirically test the effectiveness of DCA and conditions under which DCA is superior to a lump-sum strategy.

In this study, common stocks of six different U.S. publicly traded companies and three U.S. equity indexes are selected and tested. The methodology is an investment simulation where a weekly installment of fixed amount of money in securities is made for fifty-two weeks. The total percentage returns are compared between DCA and lump-sum strategies. It is found that the effectiveness of DCA is dependent of the pattern of price movement over time. The percentage return is higher with a lump-sum strategy when the price volatility of securities is low and the investment time horizon is long. The implication is that DCA investors will probably be tempted to time the market and to invest in a short term. It is concluded that the effectiveness of DCA is conditional and there is no solid answer to this question.
NOISE – ITS IMPACT ON LEARNING

James E. Reynolds and William Yacullo*

Communication Disorders
College of Health Profession

ABSTRACT

Since the industrial age the world has increasingly become a noisier place. The problems that a noisier world presents have been many. In addition to the common sensorineural impairments associated with higher noise levels, there are the more subtle challenges of noise induced learning impairments. Through a series of articles and journals this research seeks to establish the desired noise levels for optimum learning. While a number of articles have been published on the subject of noise as it relates to the peripheral hearing, the methodology in determining the articles for this particular review concerned the relationship between noise and learning. What is the specific signal to background noise ratio needed in order to facilitate optimum learning? Is this particular ratio the same for all learners? These questions and more will be answered as we explore, Noise - Its Impact On Learning.
MULTIMEDIA IN THE CLASSROOM: A REVIEW

Arviind Mohan, Khalid Habeeb, and Winfried K. Rudloff*

Computer Science
College of Arts and Sciences

ABSTRACT

Multimedia in the classroom has become a powerful tool in the delivery of knowledge. It uses multiple modes of knowledge transfer and information processing to teach or entertain the users, i.e., students. Multimedia, in particular, refers to the use of electronic media to store and experience multi-faceted content. Multimedia is comparable to traditional mixed media as, for example, in fine arts, but it provides a broader scope.

In the past, knowledge was delivered one-dimensionally or linearly as is exemplified in textbooks and video presentations. With the advent of the concepts of hypertext and hypermedia, the teaching and learning process has become multi-dimensionally allowing us to navigate through the learning material along non-linear pathways. This makes the learning process more effective and pleasurable. With multimedia, the teaching-learning process can be highly interactive and as such, it permits long-distance “virtual” classroom activities. Applications of such nature are found, for example, in 

class, the virtual classroom by Elluminate. The term “rich media” sometimes refers to interactive multimedia.

In Education, multimedia is used to convey computer-based training courses (popularly called CBTs) and produce electronic encyclopedia. A CBT lets the user go through a series of presentations, text about a particular topic, and associated illustrations in various media formats. Multimedia is applied to various areas of human interaction such as, advertisements, art, education, entertainment, engineering, medicine, mathematics, business, scientific research, and spatial temporal applications such as one-line weather depiction. Multimedia is also seen as a combination of two or more categories of information having different transport signal characteristics. Typically, one medium is a continuous medium while another is discrete. Image, audio, video and graphics are examples of media.

If time permits, a brief video clip will be presented as example of an in-class experiment where students present a project in class while the camera captures the action and transfers it directly to the computer for editing purposes and creation of a movie.

KEYWORDS: Multimedia, Linear Active content, Non linear content, CBT.

REFERENCES
http://en.wikipedia.org/wiki/Multimedia
http://en.wikipedia.org/wiki/Multimedia_literacy


THE IMPLEMENTATION OF INQUIRY-BASED SCIENCE INSTRUCTION
This qualitative study was undertaken to understand the implementation of inquiry-based science instruction. The research participants were teachers with less than three years full-time teaching experience. The research data was collected using two face-to-face interviews, one classroom observation per participant, and a review of artifacts and documents (e.g., student work, lesson plans, and curriculum guides). The research questions guiding this study were: a) What are novice teachers’ attitudes and knowledge about inquiry-based science instruction? and b) Are there obstacles in the teaching environment that affect the implementation of inquiry-based science instruction? Results were based on three major findings. Finding #1: Novice teachers’ knowledge of and attitude toward inquiry-based science instruction is limited. Finding #2: There are many teacher-related obstacles that affect the implementation of inquiry-based science instruction. Finding #3: There are many school-related obstacles that affect the successful implementation of inquiry-based science instruction. Further research possibilities include conducting a one, two, and/or three-year follow-up interview with each participant to monitor and track personal and professional growth in the area of inquiry-based science instruction.
EXTRACTION OF SOILS FROM THE MARKHAM FIELD PRAIRIES BY EPA METHOD 3570 WITH SUBSEQUENT ANALYSIS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION

Weronika Leja, Jason Gbur, and Stephen D. Kent*

Science Education
College of Arts and Sciences

ABSTRACT

This study concerns the extraction of soils containing Garlon 4 herbicide and diesel fuel as applied to buckthorn, and other invasive plants that exist in the Gensburg and Paintbrush Markham field prairies owned by the Nature Conservancy. The soil samples taken at the site were extracted using EPA method 3570, and then analyzed by gas chromatography with flame ionization detection as a screening method to determine the amount of herbicide-diesel mixture present. According to literature^, chlorinated acid herbicides usually require derivatization of the analytes before analysis, however, diesel fuels can be analyzed by gas chromatography effectively. The importance of this work is realized when considering diesel fuels are retained in soils even though the Garlon 4 herbicide may degrade within a three month time period. Since this herbicide is typically mixed with diesel fuel or other hydrocarbon oils prior to application, the environmental impact of this study should be recognized for the Markham field prairies and other federally protected wetlands.

References

1 U.S. Environmental Protection Agency Office of Pesticide Programs, Special Review and Product Registration Division. 1997 Registration Eligibility Decision (RED): Triclopyr, List B, Case 2710.

2 Dow AgroSciences LLC, Product Information Bulletins Garlon 4 Herbicide, 9330 Zionsville Road, Indianapolis, IN 46268

ANALYSIS OF SOIL EXTRACTS FROM THE MARKHAM FIELD PRAIRIES BY GAS CHROMATOGRAPHY/ ION-TRAP MASS SPECTROMETRY, AND LIQUID CHROMATOGRAPHY- ELECTROSPRAY/MASS SPECTROMETRY

Andrea Krueger, Jason Gbur, and Stephen D. Kent*

Science Education
College of Arts and Sciences

ABSTRACT

This study concerns the use of Garlon 4 herbicide as applied to invasive plants such as buckthorn, and other broadleaf varieties that exist in the Gensburg and Paintbrush Markham field prairies. The LC/MS analytical work completed at Governors State University is an extension of work presented by the Montana Department of Agriculture in cooperation with Montana State University. It should be noted the soil extracts were analyzed to determine the amount of residual herbicide present in the soil samples which is due to the overspray of the invasive plants. Since the Garlon 4 herbicide was mixed with diesel fuel before application, the amount of residual diesel fuel was also investigated by GC/MS. The importance of this work is realized when considering the degradation of this herbicide/diesel mixture in soils, and also the water present as runoff in these wetlands. Since this relatively new herbicide is widely used throughout the United States by forestry, agriculture, and private land owners, the environmental impact of this study should be acknowledged and investigated further in future work.

References


THE CULTURAL LANDSCAPE OF MOMENCE, ILLINOIS

Kendra Sandstrom and Frances Kostarelos*

Social Sciences
College of Arts and Sciences

ABSTRACT

On the banks of the Kankakee River lies the oldest town in northeastern Illinois, Momence. Founded in 1834, Momence was known as “the old border town” by early settlers because of its position between the civilized East and the Wild West. Momence served as one of the early trading posts between Chicago, and Vincennes, Indiana. Before any pioneers arrived, Momence was still an area of wilderness with marshlands dominating the landscape. It was first inhabited by the Native American Pottawatomi, whose chief, Momenza, inspired the name Momence. Indigenous people have since been replaced by immigrants from Europe, and more recently Mexico. Each succession of occupants has left their mark on the area’s cultural landscape.

Identifying the cultural landscape of a location is particularly important within the field of Human Geography. The purpose of this poster presentation is to give a visual idea of how human activity in Momence, Illinois has left its imprint on the landscape. The photographs in this presentation illustrate a variety of the ways in which people have impacted and continue to impact the environment of Momence. Some of the important elements included are historic sites, transportation routes, and land usage, all of which give an insight into Momence’s unique values and history.
FAILING OUR GIRLS:
HOW EDUCATIONAL TECHNOLOGY EXACERBATES THE GENDER GAP

Christen Pudlewski Embry and Ana Kong*

Communication Studies
College of Arts and Sciences

ABSTRACT

Every day in industrialized and technologically advanced countries around the world, school children are educated on computers. From preschool onwards, children use computers to create, problem-solve and interact with each other and the world around them. The use of computers in the classroom has been shown to have a positive effect on children’s cognitive abilities, helping them learn complicated concepts and advanced writing techniques. Classroom computer use may also play a part in giving students a sense of school community.

However, research has found a “gender gap” that exists between how boys and girls use and perceive computers and educational technology. This gap typically occurs around Grade 6, resulting in a potentially significant educational separation between the genders by the time the children reach high school.

The computer gender gap is a frightening reflection of the larger gender gap that occurs in girls between the ages of 12 and 13. Working together, parents and teachers can positively impact the attitudes of girls toward computer use and computer enjoyment. Computers have become such an important part of education and learning in the United States and in other technological countries that it is essential that the technological gender gap be narrowed or eliminated in order to offer girls the best education available.
LONG TERM EFFECTS OF STIMULANT DRUGS ON CHILDREN WITH ADHD

Marion Kaes and Darlene Wright*

Psychology
College of Education

ABSTRACT

The purpose of this study is to investigate and explore the long term affects on children and adolescences that have been treated for ADHD with stimulant type drugs, and if any harmful effects exist with regard to the children's growth and development. This literature review has demonstrated that there is more research needed to scientifically assess the potential and actual dangers involved.

In our attempt to help children with Attention Deficit Hyperactivity Disorder, several questions arise. First, what should we be doing to protect or prevent irreversible harm as a result of use or overuse of stimulant drugs? Second, are the benefits of medication so significant, that they outweigh any possible physical or psychological harm? Third, are there safer alternative treatments?

The literature in this review gives rise for concern that there may be serious health risks. Will children treated with stimulant drugs, be smaller in stature and weight less? Will the use of these stimulants cause cardiovascular heart disease, or be the main reason for the onset of tics? And now with information just released, linking the use of the drug called Strattera with feelings of suicide, (Government Issues ADHD Drug Warning, 2005) there is new reason to be alarmed.

Clinical studies have shown that the use of stimulant drugs to treat children with Attention Deficit Hyperactivity Disorder will result in immediate benefits for the children being treated. If considering long-term use, be strongly cautioned because of the negative effects these drugs can have on developing children.
THE IMPACT OF SELF-MONITORING OF CBM READING RATES ON STUDENTS WHO ARE IDENTIFIED AS LEARNING DISABLED

Mary Arp and Maribeth Kasik*
Multicategorical Special Education
College of Education

ABSTRACT

This study investigates the impact of reading rate of improvement for students identified as Learning Disabled through self-monitoring their weekly Curriculum Based Measurement (CBM) oral reading passages. CBM is a simple, reliable, and valid set of measurement procedures that measure progress over time. CBM testing is from a multiple equivalent sample (Deno, 2003). Task difficulty is held constant and inferences can be drawn regarding the student’s progress due to the use of comparable measures. Information is displayed on a graph. Elementary students identified with Reading Learning Disabilities (n = 10) in Grades 3 through 5 participated in the monitoring of their progress weekly by viewing a graph before reading their passage and then recording their results on the graph after the reading of the passage. The four-week intervention showed a mean gain of 8.7 words read correctly in one minute. Third grade students (n = 3) had a weekly average gain of 1.06 words read correct (WRC). Fourth Grade students (n = 4) had a weekly average gain of 2.31. Fifth grade students (n = 3) had the largest gain of 3.9 WRC. This is in contrast to Special education norms which are .58 words read correctly per minute, weekly rate of improvement (Deno, Fuchs, Marston & Shinn, 2001). Larger rates of improvement are seen in earlier grade levels (Deno et al. 2001; Edformation, 2004, Fuchs & Fuchs, 1993). This study showed significant improvement on the students’ weekly rate of improvement when the intervention of the visual information was implemented.
DIVERSIFYING PORTFOLIOS USING EMERGING MARKETS

Kerry Dean and Helikki Heino*

Business Administration
College of Business and Business Administration

ABSTRACT

Within the borders of the United States, an investor has the ability to create a portfolio that can deliver adequate returns in face of the level of risk that the investor is willing to bear. This paper examines the environment surrounding emerging markets and the net benefits of diversifying portfolios using investment options available in emerging markets. In my analysis, the returns of the S&P 500 are contrasted against the returns that could have been achieved by selecting similar investments in key emerging markets is considered. My hypothesis is that the returns gained by including investments from emerging markets are essentially equal to those available in the US. As the countries who are currently designated as emerging liberalized their economies, the expectation is that a diversified portfolio for similar risks can be assembled using investments from any part of the world.
PHOTOXYGENATION OF N-ACETYLTryptophan ETHYAMIDE: STUDY OF A POSSIBLE NON-DISUFIDE LINK IN PROTEIN-CROSSLINKING

Sreelalitha Gunti and Shailendra Kumar*

Analytical Chemistry
College of Arts and Sciences

ABSTRACT

Oxidation of eye lens protein in the presence of light causes crosslinking and aggregation of protein, which, in turn, are responsible for most type of cataracts. The crosslinks in proteins are mainly attributed to covalent disulfide bonds formed by the combination of two cysteine moieties forming dimers of the proteins. However, other amino acids, particularly, methionine, tryptophan, histidine, tyrosine, and phenylalanine have been known to oxidize to a large number of photooxidation products, and are likely to cause non-disulfide linkages. We have been investigating the non-disulfide covalent linkages in protein by chemical models, which are peptide resembling derivatives of the "active" amino acids in which amino and carboxylic acid groups have been derivatized to amide groups. Photooxygenation of one such derivative, N-acetyltryptophan ethylamide (NATEA) synthesized in our laboratory, produced products which have higher molecular weight than NATEA. In this study we are searching for a “dimer” of NATEA of among the higher molecular weight photooxidation products.
Globalization for the purposes of this work is the cross-national, inter-market process that binds individuals, mediate organizations, both governmental and nongovernmental, and nations together. While creating connections that define and redefine the concepts of citizen and worker in every venue of life, capitalism significantly affects the series of processes associated with the allocation and distribution of resources and wealth in a society using predominantly, but not exclusively, the mechanisms created by the free-market system. In this socioeconomic system, most of the means of production and distribution are privately owned and operated for profit under, theoretically, fully competitive conditions. Assertions of labor analysts is that under the working conditions created at the onset of the twenty-first century, workers join labor unions for the same reasons did at the onset of the twentieth century. This means a workplace characterized by living wages, affordable and meaningful benefits, a balanced system for promotions, and protection against unfair discipline or discharge in an environment of respect and dignity. Is this really the case in the U.S.? What had happened in the intervening hundred years? Are labor relations better today than a hundred years ago?
THE EFFECT OF MATHEMATICS COURSE PLACEMENT IN ELEVENTH GRADE ON THE ACT MATHEMATICS SCORE

Susan Donovan and Lisa Chang*
Mathematics Education
College of Education

ABSTRACT

Because of the No Child Left Behind Act, schools are under increasing pressure to increase achievement test scores. One factor that can affect a student's score on a mathematics achievement test is course placement. This study investigated the effect of mathematics course placement in eleventh grade on the ACT mathematics score. The study also investigated the relationship between ethnicity and level of mathematics course placement. The junior classes from two different calendar school years were used in this study. Students were chosen from a public high school in the Chicago suburbs. The students were divided into three levels based on their junior year mathematics course: low, average, and advanced. The ACT scores and ethnic composition of the classes were compared among the three levels. Data analysis showed that there was a significant difference among the ACT scores of students in the various class levels. Students in the advanced level generally had higher scores than students in the average and low levels. Students in the average level classes generally had higher scores than students in the low level. There was also a significant relationship between ethnicity and course placement in the three levels. The percentage of minority students in low level classes was higher than the overall percentage of minority students in the general school population. For schools looking to improve mathematics achievement for all students, re-evaluating how students are placed into different levels of courses might be one step.
GIRL TALK

Albertina Donaldson and Michael Weuste*

Nursing
College of Health Profession

ABSTRACT

Girl talk is a ten week program designed to increase the adolescent girl's sense of self-efficacy through education, mentoring, and enhancing of life skills. The purpose of Girl Talk is to decrease the adolescent girl's vulnerability to teen pregnancy, and sexually transmitted diseases through education. The goals of Girl Talk are to empower the adolescent girls by helping them develop good decision-making skills and to deliver a gender-specific program that is culturally sensitive and increases self-esteem through knowledge and mentoring. The program enrolls adolescent girls between 11-17 years old. The program is taught using a combination of teaching methods such as role playing, lecturing, music/rapping, and mentoring. The topics that are discussed includes: sex and dating issues including teen pregnancy, self-esteem, job skills and career choices/goal setting, stress management/conflict resolution, money management, feminine health and hygiene, sexual transmitted diseases, body image, substance abuse, and gangs and peer pressure.
ABSTRACTS OF POSTER PRESENTATIONS

May 23, 2007

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The authors with underlined names are the presenting authors. The authors with asterisks are the faculty sponsors.

Governors State University
University Park, Illinois
MEDIA AND THE CONFLICTS IN THE MIDDLE EAST

Mercedes Kane and Ana Kong*

Communications and Training
College of Arts and Sciences

ABSTRACT

The research I conducted concerns the media’s portrayal of war through news stories and coverage during both the first Gulf War and current Iraq War. Much of the coverage served as a form of propaganda, ultimately influencing society’s view of these wars.

One way I found the media succeeded in propagating the public’s beliefs was by the way stories were framed. Framing, or the way the mass media organize and present issues and events, had a large impact on public opinion and the overall views concerning the war. Agenda setting also played an important role in the media’s power to propagate beliefs and ideas in the public during both wars in the Middle East. By downplaying certain stories or making others seem more significant, the media altered public perception of the wars. Another aspect I examined was how the media’s overall objectivity, or lack thereof, promoted mistruths about the reasons for warfare in the Middle East. Mostly by upholding patriotism, the media sacrificed objectivity in much of their reporting on these wars.

This research proved a combination of framing, agenda setting, and objectivity in the news media during both wars in the Middle East played an important role in propagating the beliefs of society.
HYDROXYLATION OF 1-BENZYLPIPERAZINE BY A CARBONYL OXIDE, A CHEMICAL MODEL OF CYTOCHROME P-450

Ajaykumar Mallesha and Shailendra Kumar*

Analytical Chemistry
College of Arts and Sciences

ABSTRACT

A few aromatic piperazine derivatives have been reported to be metabolized by cytochrome P-450, mono-oxygenase enzymes found mainly in the liver, to the oxidized products in which piperazine ring has been hydroxylated with no hydroxylation occurring at the aromatic ring. However, an aromatic hydroxylation is a common reaction catalyzed by cytochrome P-450 enzymes. In this project, we are studying hydroxylation of 1-benzylpiperazine by benzophenone oxide, a carbonyl oxide which has been shown to be a chemical model of mono-oxygenase enzymes in our laboratory. Benzophenone oxide, produced by a reaction between diphenyl diazomethane and singlet oxygen, oxidized 1-benzylpiperazine to phenolic products. The results of this oxidation will be presented in this poster.
Typical American Vegetarians and Vegans are using technology to build communities online in the effort to make social contacts. They are also using the internet as a shopping tool for hard-to-find, compassionate, animal content free items for everyday use. This is an inspection on whether their life choices are creating more positive transformations in areas like food technology, business, travel, economics, and the global village. It is therefore necessary to ask the question: “Have Vegetarian and Vegan values created social change in the United States on a variety of levels, and in turn have they helped to encourage new developments in “compassionate” life styles?

It is a well known fact that humans are social creatures and have a deep need to be with others for contact. Humans form specific organizations which give powerful meanings to people’s lives. James Henslin (2006, p.114) says as much in his book Essentials of Sociology: A Down-to-Earth Approach; “Groups are the essence of life in society. We become who we are because of our membership in human groups.” Social customs give life a predictable pattern. Predictability and having certain beliefs in common affords everyone a general sense of comfort and ease. Vegetarians are one such grouping within the American social order.
RUNNING FASTER TO STAY IN THE SAME PLACE

Nancy Gallegos

Communication Disorders
College of Health Professions

ABSTRACT

Advancements in technology are moving forward at lightning speed. But are these advancements contributing to the shift we are experiencing toward an individualistic society? Is technology isolating the individual and distorting our sense of community? This project proposes to explore these issues through recreations of photographic images that represent the movement from community to individuals.
TECHNOLOGICAL VOTING BEHAVIOR: COMPUTERIZE VOTING IN MATTESON, ILLINOIS

Jay Anthony Dobbs II and Frances Kostarellos*

Social Sciences
College of Arts and Sciences

ABSTRACT

This abstract is a brief description of Technological Voting Behavior: Computerize Voting in Matteson, Illinois. The background of the research project is about how voters in the village of Matteson, Illinois react to the use of new voting technology that other voters across the nation is using and how they are dealing with the problems and political issues that surrounds the new and upcoming voting machines that is computerize and how the company that manufacture the new voting machines for Matteson and Cook County, Illinois play a role in the topic issue of computerize voting. The work will show examples of the type of voting machines that Matteson and Cook County use during elections and the other types of manufacture machines that is computerize. The significance of the work is to show what kind of affect is computerize voting is having on the voting residents of Matteson and will it have a negative or positive affect when voting in future elections for the local, state and federal levels of government.
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