Research and Creativity Day
Wednesday, April 24, 2019

Schedule of Presentations and Abstracts

Sponsored by:
Research and Grants Center
Honors College
Undergraduate Research, Scholarship, and Creative Activities Committee (URSCA)
This year’s logo was designed by Madeline Griem, an undergraduate student in Social Sciences. She received a $250 scholarship for the spring semester as the winner of this year’s t-shirt design contest. We thank all of the students who submitted designs!
2019 ORAL PRESENTATIONS

*Participant in 2018 ESU Summer Undergraduate Research Program (ESURP)*

BLUE KEY ROOM—MEMORIAL UNION

8:30  GR06  The Impact of Storage Conditions, Sample Volume, and Collection Technique on Blood Alcohol Concentration in Non-Decomposed Defibrinated Sheep’s Blood
Christian Pascual, Physical Sciences

8:45  GR13  Rapid Separation and Determination of Amino Acids in Unregulated Dietary Supplements
Shelby Young, Physical Sciences

9:00  GR01  A Cost-Effective Approach to Making Large-Scale Impressions
Mousa Al Zubi, Physical Sciences

9:15  GR10  Development of a High Pressure Liquid Chromatography Method for the Analysis of Lipid Based Cannabinoids
Jennifer Wells, Physical Sciences

9:30  GR03  The Effect of Temperature Change on Rate of Digestive System in *Anaxyrus woodhousii*
Donglin Han, Biological Sciences

9:45  Break

10:00 UG06  Trends in Distribution of Plains Minnow (*Hybognathus placitus*) in Kansas from 1964 to 2017
Dylan Osterhaus, Biological Sciences

10:15 UG10  Optimization of Capillary Electrophoresis for Detection of Amino Acids
Silei Zhang, Physical Sciences

10:30 UG04  The Sanitization of History Concerning Representations of People of Color in Educational Textbooks about the Civil Rights Movement
Zauvionna Laddimore, Social Sciences

10:45 UG02  Black Women, Trauma & Higher Education: A Case Study of the Effects of Adverse Childhood Experiences as it Relates to the Current Campus Climate and Black Female Employees
Kayla Gilmore, Social Sciences

GREEK ROOM—MEMORIAL UNION

8:30  GR12  Making It or Faking It – Your Mind Will Decide: An Investigation into the Relationships Between Imposter Phenomenon, Demographics, and Employee Well-being.
Anna Wray, Psychology

8:45  GR04  Can Morality be Trained?
Alexandria Klema, Psychology

9:00  GR07  Reassessing Poverty Metrics in College Towns
Tami Schafer, Accounting, Finance, and Information Systems

(Oral schedule continues on page 4)
9:15  GR05  ‘Hakuna Matata’ Vs. ‘Hapana Ngori’ Case Study of “Sheng” Language in Kenya
Kennedy Mwangi, Business Administration

9:30  GR14  C2C Web Redesign
Qianru Yu, Instructional Design and Technology

9:45  Break

10:00  UG05  Expression Through Art
Carissa McAfee, Business Administration

10:15  UG11  Determinants of ICO Returns
*Callie Zirkle, Business Administration

10:30  UG08  How Culture is Affecting International Business with China and the United States
Carolina Taylor, Accounting, Finance, and Information Systems

10:45  UG09  Gender Roles Compared in Zimbabwe and The United States
Miranda Veesart, Mathematics and Economics

PRESTON FAMILY ROOM—MEMORIAL UNION

8:30  GR11  Words Worth Sharing: Library Advocacy and Kansas House Bill 2719
Danica White, School of Library and Information Management

8:45  GR08  Tell Us Your Story! Developing an Oral History Program in Special Collections and Archives
Ally Urban, School of Library and Information Management

9:00  GR09  An Investigation of the Correlation of Temporomandibular Structure and Clarinet Mouthpiece Selection
*Garrett VanArsdale, Music

9:15  GR02  All-ness and None-ness: Situating HP Lovecraft in Environmental Discourse
Nick Clohecy, English, Modern Languages, and Journalism

9:30  Break

10:00  UG03  The State Opening of Parliament
Leah Grote, Social Sciences

10:15  UG01  The Effect of Music Therapy on Geriatric Depression Scale Scores: A Pilot Study
*Breanna Gilger, Nursing

10:30  UG07  Publishing in the Digital Humanities: Solér Manuscript Transcription and Critical Introduction
*Sarah Spoon, English, Modern Languages, and Journalism
THREE MINUTE THESIS – KANZA ROOM – 10:00 A.M. – 11:00 A.M.

Time slots will be chosen by a drawing on the day of the event.

The Effect of Temperature on the Prey-Handling Behavior of Juvenile Pantherophis guttatus
Jeffery Anderson Jr., Biological Sciences. Thesis Chair – Dr. Lynnette Sievert

Effects of Parasitism on Stress Levels in Northern Watersnakes (Nerodia sipedon)
John Bellah, Biological Sciences. Thesis Chair – Dr. Lynnette Sievert

Employee's Perceptions of Pets in the Workplace
Kaitlin Cyr, Business Administration. Thesis Chair – Dr. Christopher Stone

Learning Analytics and Student Success: Ensuring all Learners Have a Chance at Success
Joshua Key, Instructional Design and Technology. Thesis Chair – Dr. Dabae Lee

Technology and the Modern Employee: An Investigation into Work Smartphone Use, Psychological Detachment, Motivation, and Employee Well-Being
Alexandria Klema, Psychology. Thesis Chair – Dr. Christopher Stone

The Effect of Cattle Grazing on Birds Nesting in Conservation Reserve Program Grasslands
Heather Kraus, Biological Sciences. Thesis Chair – Dr. William Jensen

The Effect of Ultraviolet Light on the Subaerial Weathering of Sus domesticus Long Bones
Aubrey McBride, Physical Sciences. Thesis Chair – Dr. Melissa Bailey

Mudbloods and Aliens: An Original Manuscript, Ula’ree and Critical Foreword
Brandy Nance, English, Modern Languages, and Journalism. Thesis Chair – Dr. Amy Sage Webb

Oppression in Science Fiction
Desirée Neyens, English, Modern Languages, and Journalism. Thesis Chair – Dr. Rachelle Smith

The Impact of Storage Conditions, Sample Volume, and Collection Technique on Blood Alcohol Concentration in Non-Decomposed Defibrinated Sheep’s Blood
Christian Pascual, Physical Sciences. Thesis Chair – Dr. Melissa Bailey

Measurement Determination of Blood Spatter on a Horizontal Surface
Kristin Rindom, Physical Sciences. Thesis Chair – Dr. Melissa Bailey

Seasonal Use of Riffles, Wadeable Pools, and Non-Wadeable Deep Pools by Fishes in the Neosho River
Sam Schneider, Biological Sciences. Thesis Chair – Dr. David Edds

Does Cattle Grazing or Plant Diversity Affect Bird Densities in CRP Grasslands?
Benjamin Wilson, Biological Sciences. Thesis Chair – Dr. William Jensen

ABSTRACTS OF ORAL PRESENTATIONS

*Participant in 2018 ESU Summer Undergraduate Research Program (ESURP)

Graduate Students

GR01  A Cost-Effective Approach to Making Large-Scale Impressions. Mousa Al Zubi, Physical Sciences. The use of casting material at a crime scene is important due to the different applications that it can be used for. AccutransTM is considered an extremely expensive casting material, especially when it is applied on large scale
impressions. Dental stone is not an expensive casting material, but it is heavy when applying it on large scale impressions. A cost effective, light casting material is required to help collect large scale impressions. This study tested the results of mixing Monster Liquid Latex with various types of caulking compounds: Supreme 100% silicone, White Lightning acrylic Latex caulk, Alex Plus Acrylic Latex Plus Silicone at different ratios. Adding the Calcium Nitrate Tetrahydrate to the Monster Liquid Latex resulted in immediate solidification. A combination of White lightning with Silicon at 10:1 ratio with a 20 minutes mixing time resulted in a good casting material that would dry within 3 hours. However, further research is needed to decrease drying time and to develop a formula for large scale impressions.

**GR02 All-ness and None-ness: Situating HP Lovecraft in Environmental Discourse.** Nick Clohecy, English, Modern Languages, and Journalism.

In my presentation, I argue that the fiction of HP Lovecraft does not offer the ecocritic any avenue to political action, nor can his fiction provide any clear-cut moral lessons. Instead, the cosmic horror of Lovecraft forces us back to the drawing board to reevaluate: 1) What humanity’s place is in the universe, 2) What we know (or can know) about the universe, and 3) What these uncertainties mean for how we should act within our environment. Borrowing concepts from such ecocritics as Simon Estok (ecophobia) and Matthew Taylor (ecophilia), as well as terms of other critics such as Marco Pasi (negative epistemology), this presentation seats Lovecraft’s “The Colour out of Space” at a diverse table. Especially relevant, too, is the notion of the apocalypse narrative, which is ordinarily meant to inspire change through its ability to alarm us; it is a tool that is both loved and hated within environmental discourse, but its utility is paralyzed when applied to Lovecraft’s unique apocalyptic visions. Finally, my discussion is remiss without mention of related horror authors, like Algernon Blackwood, whose fiction seems to blur the boundaries between the human, the natural, and the supernatural. When such boundaries collapse, as they also seem to do in the work of HP Lovecraft, we are left with many questions and very few answers—and this is precisely where the ecocritic, always one to seek political action from the text, finds a freedom that is both liberating and horrifying: all ethics are possible, yet none matter.

**GR03 The Effect of Temperature Change on Rate of Digestive System in Anaxyrus woodhousii.** Donglin Han, Biological Sciences.

Anaxyrus woodhousii occupies an extensive range of habitats in the United States. However as an ectotherm, temperature regulation plays a critical role in digestive physiology of A. woodhousii. We were interested in whether temperature affects the rate of a toad’s digestion. To test that, we used 20 male and female Woodhouse’s toads individually acclimated in stable temperature chambers at 16 ±1ºC, 21 ±1ºC, 26 ±1ºC and 31±1ºC. We fed toads crickets with a different colored bead at 12:00pm for 7 days. Each toad was acclimated and tested at the 4 different temperatures. Every day we gave each toad 2 crickets and one bead. We checked toads 3 times every day to find the beads until we found all 7 beads.

**GR04 Can Morality be Trained?** Alexandria Klema, Psychology.

This research study combines findings from social psychology, learning and cognition, behavioral theory, and industrial-organizational psychology to investigate the possibility of reducing unethical behaviors by bringing awareness of morality constructs to the individual. A quantitative analysis using college students enrolled in a morality course draws conclusions on potential benefits of morality training. Implications for organizations as well as academia are addressed.

**GR05 ‘Hakuna Matata’ Vs. ‘Hapana Ngori’ Case Study of “Sheng” Language in Kenya.** Kennedy Mwangi, Business Administration.

Language is a major element in the content of the message component while communicating advertisements to the public. As societies evolve, different demographic groups come up with their own vocabulary for social interaction. The young generation of a society uses a language usually made up of special words and phrases for communication to fit their needs. This language grows with time and every generation of youths add on their own distinct vocabulary and phrases. The language of the youth is often derived from a standard language that is widely used in the community. This presentation explores the language used by Kenyan youth called “Sheng”, which is developed from Swahili and English. The presentation will discuss the use of “Sheng” and its connection to the marketing mix. Managerial implications will also be discussed. Keywords: Language, Sheng, Advertisement, Marketing, Culture, Kenya

After attending this presentation, attendees will have a better understanding of the long-term effects of collection technique, time, temperature, sample volume, and the presence of excess glucose on the blood alcohol concentration (BAC) in non-decomposed defibrinated sheep’s blood. The potential of encountering a blood sample from a person with elevated blood glucose due to type 1 or type 2 diabetes or other metabolic disorders is relatively high in the US, with an estimated 30 million or more US citizens having been diagnosed with diabetes as of 2015. To date, the effect of excess glucose on blood ethanol concentrations in stored blood samples has not been studied. Blood samples in DUI cases are also stored for various lengths of time before analysis depending on the agencies policies, backlog, and testing resources. This presentation would impact the forensic science community because it would demonstrate how the percentage of ethanol is affected when the blood sample is collected and stored under various conditions over a 5-month period, including how the presence or absence of excess glucose (>240 mg/dL) affects the BAC over time. The results indicate that the presence of excess glucose and collection method do not significantly affect ethanol concentrations. The other results of this study were consistent with other studies in that sample volume and storage temperature had small effects on ethanol concentration over time, although they were not forensically significant (most changes <0.02 g/dL).

GR07  Reassessing Poverty Metrics in College Towns.  Tami Schafer, Accounting, Finance, and Information Systems.  

Poverty rates are the standard metric for quantifying how much of a county, state, or nation is considered to be poor. The poverty rate is commonly used by economists and policy makers. Unfortunately, college students tend to fall within the definition of poverty which tends to make poverty rates in college towns higher than normal. We see two shortcomings on this matter. The first shortcoming is how college students are treated when the poverty rate is calculated. Poverty rates are usually calculated by including students who live in off campus apartments and excluding students who live on campus (dorms). The second shortcoming is how students are different from the chronically poor. We contend that students should be viewed differently than those in poverty because they don’t suffer from long term poverty problems and because of their unmeasured sources of cash flow. In our research, we adjust the poverty rate to see how college students affect it at the county level in the United States. We then compare the traditional poverty rate to our adjusted poverty rate. Our results show that 30% of the 50 states have a county with a difference of 10 percentage points or more between the two metrics, another 30% have a county with a difference between 5 and 10 percentage points, and the other 40% show less than 5 percentage points. The most improved county went from 30.91% to 15.33%.

GR08  Tell Us Your Story! Developing an Oral History Program in Special Collections and Archives.  Ally Urban, School of Library and Information Management.  

History is portrayed in many different ways. It is told through letters, photographs, programs, and so much more. Another way that history can be told is by that person through an oral history interview. An oral history interview allows patrons to experience someone’s story through their eyes and their experiences. In the interviews, we get to see a unique perspective of the world through their eyes. With the oral history program in Special Collections and Archives, we are capturing the stories that may or may not be known of those who are and has been on Emporia State University’s campus as students, faculty, and alumni. With this presentation I would like to talk about the steps that we took to develop the program, what we are currently doing with the program, and our future implications with the program.


The clarinet is an instrument with which a large multitude of adaptive equipment exists to enhance playing experience and sound production. Unlike a brass instrument such as the trumpet, where only the mouthpiece is interchangeable, the clarinet consists of many flexible parts which can be adapted or replaced to improve the sound. This study aims to research the significance of jaw structure and teeth evenness with the process of mouthpiece selection. Analyzing and discussing this information could allow for players to save both time and money when choosing mouthpieces or reeds and have an idea of what their natural-born jaw and teeth structure requires regarding equipment to produce a quality sound on their instrument (open or more closed facing). The
information could also be beneficial to mouthpiece and reed manufacturers. In addition, this research hopes to unveil a correlation between mouthpiece selection and the presence of temporomandibular ailments such as temporomandibular joint disorder (TMJ) and either temporary or long-term hearing loss. These conditions are prominent among some clarinetists and most definitely serious. This research will include about 125 clarinetist participants and will incorporate the collection of both quantitative and qualitative data. Through this study (survey, mouthpiece measurement, underbite/overbite measurement), the goal is then to answer the following questions: Is there a correlation between overbite/underbite in reed strength choice? Is there a correlation between overbite/underbite and mouthpiece choice (open or closed facing)? Is there a correlation between overbite/underbite and jaw/hinge/hearing problems?

A High Performance Liquid Chromatography method for the analysis of cannabidiol in edibles was developed and optimized. The Restek Raptor ARC-18 HPLC/UHPLC column (100 mm x 3 mm, 1.8 μm) was used with a gradient. The gradient was 55% to 88.6% of phase B over 9 minutes. Mobile phase A was 0.1% acetic acid in water, and phase B was 0.1% acetic acid in acetonitrile. The total flow rate was 0.6000 ml/min, and CBD samples in acetonitrile were linear over a range of 20 to 100 ppm, with a total linearity of 0.996. The method provided herein is fast, works on multiple cannabinoids, and is adaptable to UHPLC.

In March of 2016, Kansas House Bill 2719 threatened to end Kansas public library services as we knew it. KS HB 2719 was intended to "empower citizens of Kansas with means to control the amount of property taxes levied against real and personal property". For libraries, this endangered regional library funding levels, which would ultimately eliminate public libraries with budgets less than $20,000. These libraries could not survive without grants and professional services from the regional library systems. Without regional library system support, 48 Kansas communities could have lost their libraries; with 58 more being at risk. The rise of librarian and community support, however, resulted in the bill being amended to remove libraries completely. This presentation will look at the advocacy efforts used by the library community to combat KS HB 2719, and discuss what library advocacy looks like three years later in 2019.

GR12  Making It or Faking It – Your Mind Will Decide: An Investigation into the Relationships Between Imposter Phenomenon, Demographics, and Employee Well-being. Anna Wray, Psychology.
This study aims to understand the prevalence and mechanism behind Impostor Phenomenon (IP) and the relationships between gender, tenure, education, and employee well-being. Understanding the relationships between individuals and Impostor Phenomenon and its feelings of inadequacy and fraudulence may lead to better or new ways to cope. A working-class population completed the Patient Health Questionnaire, Workplace Acceptance and Action Questionnaire, and Clance Impostor Phenomenon Scale. These relationships have been studied quantitatively through a multiple regression analysis.

GR13  Rapid Separation and Determination of Amino Acids in Unregulated Dietary Supplements. Shelby Young, Physical Sciences.
Many dietary supplements such as amino acids are recalled due to possible harmful effects caused by contamination, the absence of a component claimed to be in the product, or the presence of more or less of the ingredient displayed on the label. However, the law does not require dietary supplements to be proven safe according to FDA standards before they are put on the market. It is up to the manufacturer to certify the product’s safety and that any claims made about the product are not false or misleading. This experiment aimed to perform amino acid analysis of Aminocore, a product containing branched chain amino acids (BCAAs), using capillary electrophoresis (CE). Aminocore is a soluble powder containing the amino acids L-valine, L-leucine, and L-isoleucine commonly marketed to reduce muscle tissue breakdown and increase anabolic muscle cell signaling. The method presented here could not separate L-leucine and L-isoleucine. Therefore, the amount present was determined for both amino acids together. A calibration curve was obtained using certified laboratory standards of these amino acids. The standards were prepared in triplicate with tetraborate buffer, potassium cyanate, and NDA to initiate fluorescence that the detector could quantify. The calibration was verified with a quality control
resulting in less than 15% error. Three Aminocore samples were prepared and analyzed with the same preparation and instrument parameters as the standards. The separation and detection of amino acids for each run was within 20 seconds.

GR14  C2C Web Redesign. Qianru Yu, Instructional Design and Technology.
This presentation will show the website I redesigned for Colleague to Colleague. I use Wordpress to do the website and do search for some new functions to make the website more convenient for the visitors. It includes the management of the SIDLIT (The summer convention of Colleague to Colleague that hold in August every year). I also do the research on how to make the digital searchable through key words or author name in the website.

Undergraduate Students

UG01  The Effect of Music Therapy on Geriatric Depression Scale Scores: A Pilot Study. *Breanna Gilger, Nursing.
Background: The American Music Therapy Association (AMTA) describes music therapy as “the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program.” (AMTA, 2017). Music used as a therapeutic nursing intervention may have untapped potential, as it is a low-cost resource that may have benefits on the older adults’ overall psychosocial well-being. Few studies have been done to measure how music therapy can impact geriatric patients’ state of depression. Our hypothesis was that geriatric patients who listen to music biweekly for 25-30 minute sessions will show a decrease in symptoms of depression measured through the Geriatric Depression Scale (GDS). Methods: We tested geriatric individuals (N=8) in a long term setting to see if the passive listening to music over 6 weeks could decrease the mean overall GDS. There were four participants in the intervention group and four participants in the control group. The intervention group listened to music of their choice during two biweekly 30 minute sessions. Results: After 6 weeks of intervention, there was no significant difference in improvement in the overall mean GDS between the control group (M=5) and the intervention group (M=3.75). Conclusion: There was an overall decrease in depressive symptoms. While there was no statistical between the mean scores of both groups using the overall GDS score, there may be evidence that the intervention provides subjective quality of life improvements. Acknowledgements: This research was made possible through ESURP.

UG02  Black Women, Trauma & Higher Education: A Case Study of the Effects of Adverse Childhood Experiences as it Relates to the Current Campus Climate and Black Female Employees. Kayla Gilmore, Social Sciences.
The study of adverse childhood experiences allows society to draw connections between the mental and physical health of children, adults and the trauma they may have incurred along their lives. However, for those who lie at intersections of identity, their experiences are often considered too subjective to study. This exclusion allows for the erasure of the real experiences that make them targets of trauma at alarmingly high rates. In hopes of expanding the conversation and knowledge production of both ACEs and the experiences of black women who work in higher education, the researcher conducted a study using interviews, focus groups, and the ACEs Questionnaire to further understand the hurdles black women overcome when working within higher education. Drawing connections between the participants, their experiences as indicated by the ACEs Assessment, and their responses to the data found following a thematic breakdown, the researcher highlights the importance of considering the intersections of identity that leave groups vulnerable to traumatic experiences that higher education can further trigger. As universities across the nation are attempting to implement more inclusive practices, it is pertinent to understand the background of these groups and the history of discrimination that kept them as outcasts even within the campus environment. Acknowledging the identities that marginalized groups bring to the table is a great step towards achieving an inclusive campus. However, questioning why it is difficult to hire and retain marginalized group members, which this research accomplishes, is a necessary step as well.

UG03  The State Opening of Parliament. Leah Grote, Social Sciences.
The State Opening of Parliament is the result of hundreds of years of tradition. Every year the Queen ceremoniously makes her way to Parliament to give a speech outlining the political agenda for the upcoming year.
However, many of the rituals go back as far as the Middle Ages and are still faithfully carried out today. One example is the ceremonial role of Black Rod. It originated in the 1600s and represents an event that was a precursor to the English Civil War. In this study, I go through the intricate steps involved in the opening ceremony and how they relate to the United Kingdom’s past and present.

UG04  The Sanitization of History Concerning Representations of People of Color in Educational Textbooks about the Civil Rights Movement. Zauvionna Laddimore, Social Sciences.
Accurate history is vital in a social studies classroom and African Americans have not always been represented accurately in textbooks. This research study focuses on the sanitization of the representation of people of color in textbooks for secondary education. The purpose of this study is to analyze the misrepresentation, sanitization, and lack of representation of people of color and events during the Civil Rights Movement in secondary-school textbooks and examine for historical accuracies. Six secondary-school textbooks were analyzed for this research study. The major findings of this study consisted of sanitization of African Americans key figures and events during the Civil Rights Movement. According to the results, secondary education textbooks have likely contributed to the ongoing structures of institutionalized racism in the United States educational system. Concluding this research, the recommendation would be that social studies teachers should utilize outside resources that add to the information given in the textbooks to give students an accurate history of people of color.

UG05  Expression Through Art. Carissa McAfee, Business Administration.
Enrichment and programming is difficult to find for kids with special needs. Expression Through Art is a concept that combines speech and motor skill strategies with art, music and theatre activities. These workshops were created around each child's special circumstances to determine how needed and possible this type of programming is, only to find that it was greatly enjoyed by both artists and mentors.

UG06  Trends in Distribution of Plains Minnow (Hybognathus placitus) in Kansas from 1964 to 2017. Dylan Osterhaus, Biological Sciences.
Within the last half century, Great Plains fishes belonging to the pelagic-broadcast spawning reproductive guild have experienced declines in abundance and distribution due to anthropogenic modifications of the river systems. Stressors leading to the imperilment of this guild of fishes include dewatering, fragmentation, channelization, and modification of the natural flow regime. These stressors are particularly detrimental to the guild as members require a long river reach (some >100km) free of impoundment to complete their life cycle. Plains Minnow (Hybognathus placitus), a pelagic-broadcast spawning species and once common cyprinid throughout the state of Kansas, is now a threatened species within the state and common only within the Lower Arkansas and Cimarron River basins. Using the Kansas Department of Wildlife, Parks, and Tourism Ecological Services Stream Survey Database, supplemented with data from relevant literature, we assessed trends of presence/absence of Plains Minnow at sites within the Smoky Hill-Saline, Lower Arkansas, Kansas-Lower Republican, and Cimarron River Basins in Kansas. Sites were 150m-300m in length and sampled by seining and/or backpack electrofishing. The data were highly variable within each basin due to sampling technique, timing, and site choice. We found a very small increase in number of sites without Plains Minnow across the state.

In his seminal work, Nueva Poseía, André Collard suggests that the terms “…gongorizar y gongorino…aluden a una sensibilidad poética en que entra, además de cultismo, una nueva concepción de la poesía, a la cual se adhiere como peligrosa secta” (Collard 1). In our research, we explore the use of “gongorismo” as a “dangerous sect” as a way to approach the 1757 handwritten manuscript La Vida de la Venerable Negra, la Madre Sor Theresa Juliana de Santo Domingo, de Feliz Memoria. Through using this language and by looking at these specific genres and “dangerous sects” we hope to write and introduction to accompany our transcription of the more than 200 folios of Solér’s text. We will be working on an creating an interactive transcription of his manuscript. Solér references many other sources and canonical law to support his arguments that we wish to link using Google Books. We will be employing the use of a close reading and thematic analysis of the poem.

Culture is an integral element of international business. Every country has different preferences, that must be taken into consideration. For businesses in the United States, it is crucial to understand the cultural differences between the United States and China, since China is the leading development epicenter in the world. As found in previous studies, with the Hofstede model the two countries rate oppositely on measures of power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. “The basic skill for surviving in a multicultural world, as has been argued, is understanding first one’s own cultural values and next to the cultural values of the others with whom one has to cooperate.” (Hofstede, Hofstede, & Minkov, 2010) The foundation for successful business relationships is trust, loyalty, and sales expertise. While significant amounts of research have been completed over public corporations, data over private corporations are limited. Therefore, this study researched how private corporations understand and utilize cultural training between the two countries. It also analyzed how trust, loyalty, and sales expertise are perceived between the two countries. Utilizing interviews with global managers in a private company allowed for deductions to be made regarding primary concerns with conducting business with China. 83% of those interviewed directly stated that intellectual property is the main concern when considering trust in China’s business market. The majority of those interviewed (83%) responded that they received informal cultural training regarding international business.

UG09 Gender Roles Compared in Zimbabwe and The United States. Miranda Veesart, Mathematics and Economics.
In this report it will a comparison of gender roles in Zimbabwe and America. It will compare the roles of women in daily. For example the number of women involved in the government force, labor force and what the typical jobs of a women in both America and Zimbabwe are. It will also include a brief summary of the culture and economic development of each country. By comparing this countries it will be easier to identify the differences between an industrialized culture and an industrialized. In order to compare gender roles it is important to understand what it’s meant by gender roles.

In human bodies, there are 20 standard amino acids are required in human bodies, they play necessary roles in human bodies. When taken up into the human body from the diet, the 20 standard amino acids either are used to synthesize proteins and other biomolecules or are oxidized to urea and carbon dioxide as a source of energy. However, there are nine essential amino acids could be produced in human bodies, some amino acid needs to be obtained from food supplies, for example, lysine, histidine, threonine, methionine, valine and so on. For investigating kinds of amino acids in food supplies, chose the method Capillary electrophoresis (CE), a powerful chemical separation technique has been presented here. For this research, buffer solution was sodium tetraborate buffer. To prepare the sample, amino acids were reacted with NDA (naphthalene-2,3-dicarboxaldehyde) and CN- to produce fluorescence product, which can be detected by a laser-induced fluorescent detection. Besides, we presented the optimized experimental conditions, for example, the diameter of capillary as micrometers units, high separation voltage, injection voltage and injection time. These results showed that the separation of multiple amino acids can be performed within 20 seconds with high resolution and efficient separation.

UG11 Determinants of ICO Returns. *Callie Zirkle, Business Administration.
In this initial study, we attempt to identify determinants of returns in initial coin offerings (ICOs). Using a small sample size of ICOs that were concluded between 2013 and 2018, we find that experienced CEOs are able to achieve higher 3-5 day ICO returns. Further, our results suggest that a more active social media presence, especially via the Reddit discussion website, positively impacts the 30-day and 60-day returns post ICO. Lastly, ICO returns for all time horizons examined in this study show close connections to the Bitcoin return during the same time horizon. The impact of social media and Bitcoin performance on the return of ICOs is confirmed with a larger sample that excludes CEO data. Our results remain robust in magnitude and significance.
P01 The Effect of Argumentative Writing on Achievement in College General Chemistry for Non-Science Majors Students. Dr. Claudia Aguirre-Mendez, Physical Sciences.

The purpose of this study aimed to examine a chemistry course for Non-science College majors that includes argumentative writing assignments where students responded a scaffold prompt of different chemistry topics. Argumentative writing have shown positive effects in students’ scientific communication. Our study focused on students’ quality of their writing argumentation to be associate with their chemistry achievement. For addressing our research questions about chemistry achievement and quality of their argumentative writing correlation regression was conducted. Students’ perception of the relevance of the writing assignment to their learning were assessed using a questionnaire. Results indicate that argumentative writing promoted students’ chemistry learning and helped them to develop their argumentative skills. Implications of this pedagogy for chemistry teaching and learning are discussed.

P02 A Cost-Effective Approach to Making Large-Scale Impressions. Mousa Al Zubi, graduate student, and Ashley Haas, undergraduate student, Physical Sciences.

The use of casting material at a crime scene is important due to the different applications that it can be used for. AccutransTM is considered an extremely expensive casting material, especially when it is applied on large scale impressions. Dental stone is not an expensive casting material, but it is heavy when applying it on large scale impressions. A cost effective, light casting material is required to help collect large scale impressions. This study tested the results of mixing Monster Liquid Latex with various types of caulkings compounds: Supreme 100% silicone, White Lightning acrylic Latex caulk, Alex Plus Acrylic Latex Plus Silicone at different ratios. Adding the Calcium Nitrate Tetrahydrate to the Monster Liquid Latex resulted in immediate solidification. A combination of White lightning with Silicon at 10:1 ratio with a 20 minutes mixing time resulted in a good casting material that would dry within 3 hours. However, further research is needed to decrease drying time and to develop a formula for large scale impressions.

P03 The Digital Divide: What it is and How We can Manage it. Nadine Armstrong, Genevieve Lowery, Jacob Whitesell, Roscoe Gatewood, undergraduate students, Communication and Theatre.

The digital divide is a major factor affecting the learning curve that many college students face. It can be defined as the gap between those who have varying levels of access to, or knowledge about, certain technologies that are critical to success in our modern society. Many students come from lower-income communities where technology was not a vital role in their education. This leaves students extremely unprepared and at a disadvantage when they enter a college classroom. We are hosting a workshop that will discuss the digital divide and how it affects the students on our campus. Our workshop will include an introduction and an explanation of the digital divide. During our workshop, we will educate our participants on the workshop as well as brainstorm solutions to help bridge the digital gap. We will use different activities to assess the participants understanding and also to demonstrate the digital divide as well as it’s related aspects. In the conclusion of the workshop, it is our goal that students will be able to identify and discuss the divide with their peers. Through our poster, we acknowledge the information that we have learned through our research and study of the digital divide as well as the outcomes of our workshop.

P04 Distribution and Seasonal Activity Patterns of the Mudpuppy in Eastern Kansas. Justin Autz, Jennifer Buchanan, Michael Mahr, graduate students, Dr. Alexis Powell, Dr. Lynnette Sievert, Dr. David Edds, Biological Sciences, and J. Daren Riedle, Kansas Department of Wildlife, Parks and Tourism.

The conservation status and ecological role of the Mudpuppy (Necturus maculosus) are poorly documented. While known to be declining in many parts of the Midwest, knowledge of population sizes and distributions of Mudpuppies in Kansas is lacking. Mudpuppies may be useful as indicators of environmental problems and
knowing reasons for their decline could be useful for understanding other vulnerable amphibian species that might be more difficult to sample. We are conducting trapping surveys in eastern Kansas rivers and their tributaries to describe the species’ distribution and to assess effects of water chemistry on its occurrence. Target sites for our survey include locations of known historical occurrence, low-water dams, and places where the Kansas Department of Wildlife, Parks and Tourism recently conducted environmental DNA surveys to locate these aquatic salamanders. We are also trapping mudpuppies in Pomona Lake and Melvern Lake to study bait preference and seasonal activity patterns. We have caught 122 Mudpuppies in lakes and 15 in rivers. We currently have a trapping success rate of 2.9% per trap night in the lakes and 1.5% in the rivers. Preliminary results, from November 2017 through February 2019, indicate that Mudpuppies may be most active between mid-December and late April and that they do not differentiate between baited and unbaited traps.

P05 The Tentativeness of Science. Tyler Balsters, undergraduate student, Biological Sciences, and Johnathan Helfrich, undergraduate student, Physical Sciences.

One of the key concepts of the nature of science is that of tentativeness. People often think that scientific knowledge is absolute, based on the many experiments conducted on this knowledge over time. Science is always changing. There are many factors that contribute to its tentativeness in the nature of science. Scientists are always finding new data and evidence to support the natural world, making our understanding of science a work in progress. The knowledge we have gained in science throughout history has, and always will be, tentative, no matter how much support there is for that knowledge. It is because of science’s tentative behavior, we are allowed to reach an empirically evident conclusion. There are many different examples throughout history that have shown the concept of tentativeness in science. There was a time when human beings thought the solar system revolves around Earth and did not support the heliocentric model of the solar system we use today. Other examples of the tentativeness in science include the theory of evolution, the atomic theory, and the age of the Earth. Though science may change over time, the conclusions made from its exploration are still reliable. Throughout this poster we will be able to show examples of how science has evolved throughout time in order to find a deeper understanding about our natural world.

P06 Establishing the DEREG Transgenic Mouse Model to Study the Role of Treg Cells in Mucosal Tolerance. *Savannah Bender, undergraduate student, Biological Sciences.

From birth, the microbial community within the small intestine forms a symbiotic relationship with the host, mediated by the immune response. An important immune cell in this relationship is the regulatory T (Treg) cell. To study this relationship, we acquired transgenic mice (DEREG) that allow for temporary depletion of Treg cells using diphtheria toxin (DT). The intent of our initial studies with this model is to evaluate methods for measuring Treg cells, determine the time course of Treg cell arrival in the small intestine, validate genotyping protocols, and to titer DT quantities that effectively decreasing Treg cell levels. To examine methods for measuring Treg cell depletion, spleen samples from transgenic and wildtype mice were processed to measure GFP expression by both qRT-PCR and for flow cytometry. Both methods resulted in significant and measurable GFP expression in transgenic animals. To determine the Treg cell presence in the small intestine over time, expression of FoxP3 was determined using qRT-PCR. FoxP3 expression was measurable as early as one day after birth and significantly increased during weeks two to four. Genotyping studies confirmed the validity of our multiplex qPCR protocols. Lastly, DT effectiveness and toxicity were determined by injecting one-day-old mice with varying concentrations of DT. Observational data and weight gain was used to measure toxicity, and RT-qPCR was used to measure the extent of Treg cell depletion in each sample. Collectively the results of these experiments confirms the utility of the DEREG mouse model for investigating Treg cells in perinatal small intestine.

P07 The Flute. Marissa Billingsley, undergraduate student, Music.

A presentation about the history of the flute. The modern inventor and the system currently used. The different flutes in the woodwind/flute family. The way they look and sound.

P08 George Frederic Handel. Kaydawn Bonecutter, undergraduate student, Music.

A presentation on baroque composer George Frideric Handel.
P09 Bassoon. Ashlynette Bowles, undergraduate student, Music.

This presentation will discuss what the bassoon is, it’s role in the Woodwind Family, and how it functions as a solo and orchestral instrument.

P10 Spatial and Sexual Variation in Diet of the Mudpuppy (Necturus maculosus). Jennifer Buchanan, graduate student, Dr. Alexis Powell, and Dr. Lynnette Sievert, Biological Sciences.

The Mudpuppy (Necturus m. maculosus, N. m. louisianensis) is an elusive and poorly understood permanently aquatic salamander in the eastern United States. Little has been published on its natural history in Kansas, and baseline data are needed to assess its status and to inform conservation efforts. Our goal is to examine the trophic role and community interactions of the Mudpuppy through examination of its diet. We predict that dietary differences exist between sexes resulting from their different roles in reproduction. We also predict dietary differences between lake and river populations due to differences in available prey. Thus far, we have caught 135 Mudpuppies in the Marais des Cygnes and Neosho rivers and at Melvern and Pomona lakes, and have obtained stomach contents from most with a flushing protocol. Stomach contents are preserved in ethyl alcohol for identification to the lowest identifiable taxonomic group. We have recovered fish (Teleostei), frogs (Rana sp., Acris blanchardi), crayfish (Procambarus sp.), shrimp (Palaemonidae), caddisfly larvae (Trichoptera), mayfly nymphs (Ephemeroptera), Dobsonfly larvae (Corydalus cornutus), midge larvae (Chironomidae), stonefly nymphs (Plecoptera), water fleas (Cladocera), and Zebra Mussels (Dreissena polymorpha). As predicted, preliminary data suggest dietary differences between each of the two lakes, and between lakes and rivers, due to differences in prey species availability. However, we found no evidence to suggest that dietary differences exist between sexes. Knowledge of diet variation according to these variables will provide valuable insight into these subspecies’ natural history and provide data to inform state conservation efforts.

P11 Aaron Copland. Lauren Canady, undergraduate student, Music.

Aaron was an influential leader in the expressive modern style American musical theme. Copland was director of several movie tracks including "Of Mice and Men" with other experiences with major creators.

P12 Building Worlds, Building Literacy. Nick Clohecy, graduate student, English, Modern Languages, and Journalism.

This poster presents some literary citizenship applications for creative writing and pedagogy produced by Emporia State University students and faculty collaborating with Emporia Middle School (Emporia, KS) and Chase County Elementary (Strong City, KS). The projects implemented at these schools engaged students, grades 5-8, in imaginative writing activities that yielded books and multimedia components, and fostered community engagement. ESU students demonstrated pedagogical skills in mentoring, creative writing skills in planning, and publications design and coordination. World-building is central to these projects as an imaginative writing technique that engages students in writing and contributes to literacy. This poster will highlight the potential that the process of world-building holds for teachers and learners. The construction of a world, or even a community, allows for a wide variety of activities, lessons, and approaches—all of which can be, and perhaps ought to be, interdisciplinary. And while one goal of the poster is to demonstrate the pedagogical side of these projects, another is to portray how profoundly impactful such projects can be in fostering literacy, creativity, and self-efficacy among not only young writers, but also students who may have no idea that they even could be writers.


Most college campuses are involved in some way with the community through community engagement and service-learning initiatives; however, not all campus and faculty partners do an exceptional job at creating and sustaining their relationships with community partners. This can go both ways too, as sometimes community partners may not contribute to maintaining relationships with campus partners. Students may play a role in this as well; often times when students are working with people from the community for a class, they do not use the most effective strategies to create a relationship with their partner(s). In this project, I review literature on community engagement efforts in higher education to identify best practices for cultivating these community-campus relationships for various stakeholders, including strategies for campus partners, community partners, campus
faculty, and students. Some practices are applicable across stakeholder groups, such as metacommunicating, keeping an open mind, and self-disclosing what one wants to get out of the partnership. However, there are also certain strategies tailored to each party that should be taken into consideration as well. For instance, campus faculty should consider looking at how service-learning affects the students and the courses they teach. Community partners may want to look at how they can best be benefited while also giving their partners some potential benefits. By identifying best practices for developing and maintaining these relationships, this project may help these groups to have better relationships with partners, which could lead to more change in the community and better learning experiences for students.

P14 The Ocarina. Liza Cooper, undergraduate student, Music.
My presentation details the history of the ocarina. It discusses the earliest examples of the instrument found, the development of the modern models, the basics of how it works, and different kinds of modern ocarinas we have today.

P15 Method Development for the Analysis of Iridium in Sediment. Bradley Corbett, Matthew Mers, undergraduate students, and Dr. Qiyang Zhang, Physical Sciences.
The current leading theory for the mass Cretaceous-Paleogene (K-Pg) extinction is by an impact from a massive asteroid. Asteroids contain higher amounts of heavy metals than the earth’s crust; a resulting collision from an asteroid would deposit Iridium (Ir) into the corresponding ash layers. This increase in Ir has been discovered by other studies and along with other findings have supported the theory of the K-Pg extinction resulting from an asteroid. Simple confirmation of increased iridium is vital to identifying the K-Pg boundary. The goal of this project was to develop a method for easy iridium analysis of sediment samples. First, detection by UV-Vis was attempted, but no significant difference could be seen between the baseline and iridium spiked ethanol. A new approach was attempted with ICP analysis. Two samples were to be tested. The samples were powdered, heated, and soaked in acids and filtered. The sample solutions were diluted in volumetric flasks and were run on ICP. The results showed that there was 44(±3) ppm of Ir in one sample from Montana and there was 6(±4) ppm of Ir in another sample from the KT Ashlayer.

The focus of this research survey is to examine the impact of socialization and future financial prospects in college students career choices. Much of the research on this topic focuses on the intersection of gender on career choices, and this research is to expand on how impactful socialization can be on critical life choices and to find if money is one of the major in career choices. This information is going to be gathered through survey questions from different major programs within Emporia State University with a variety of questions about influences on their life growing up that impacted their career choice; then we examined how the financial prospects affected the students future career to analyze how impactful money is on college aged students life choices.

P17 Interfacing a LiDAR Camera with an Unmanned Aerial System (UAS) for Use in the Surveying of Topographical Features. Jordan Crofoot, undergraduate student, Dr. Alivia Allison, and Dr. Chris Pettit, Physical Sciences.
The goal of this project aims to build an aerial platform for collecting detailed topographical information, which will be used for a variety of mapping and 3D modeling applications. This will be achieved through the integration of Global Positioning Systems (GPS) and Light Detection And Ranging (LiDAR) sensors onto a DJI Matrice 600 Unmanned Aerial System (UAS). LiDAR uses an array of lasers to scan and map surfaces by detecting the reflected laser light. This process is similar to Radio Detection And Ranging (RADAR), which uses reflected radio waves or microwaves for object detection. LiDAR can “see” through the vegetation to the surface below by peering through the gaps in the leaves. This aerial platform will enable the surveying of a portion of the F.B. and Rena G. Ross Natural History Reservation, one of the natural areas owned by ESU. The precision of LiDAR in conjunction with the details provided by the GPS, should allow us to produce a detailed topographical map of the area, as well as detect objects or structures concealed by vegetation.
P18 Heavy Metal Concentrations in Flood-Prone Sediments of Tar Creek in the Tri-state Mining District. Callie Dallimore, undergraduate student, Physical Sciences, *Colin Dallimore, undergraduate student, Biological Sciences, Dr. Qiyang Zhang, and Dr. Marcia Schulmeister, Physical Sciences.

The Tar Creek Superfund Site is a part of the abandoned lead and zinc mining region known as the Tri-State Mining District (Kansas, Oklahoma and Missouri). Over 100 years of underground mining left behind nearly 200 million tons of contaminated mine waste. In recent years, an increase in flooding events has heightened the potential impact of the dissolution and transport of heavy metals in the sediments. From 2000 to 2006, the USGS analyzed selected metal concentrations in a transect across the Tar Creek floodplain. The creek overtopped its banks 11 times at this location since the USGS project was completed. In this study, a near-stream section of the USGS transect that was not previously evaluated was examined for zinc, lead, arsenic, cadmium, and manganese in sediments. Four, 0.6-meter sediment cores were collected from a transect across the Tar Creek floodplain in Miami, Oklahoma. The sediment samples were sieved to <63 µm size; digested using a mixture of hydrochloric, nitric, perchloric, and hydrofluoric acids; and analyzed using Inductively Coupled Plasma Spectrophotometry. Heavy metal concentrations were highest in the core 15 meters west of Tar Creek’s bank, with zinc concentrations as high as 9,142 mg/kg at 0-5 cm below land surface; and lead, arsenic, cadmium, and manganese concentrations ranging from 11 to 1,611 mg/kg. Selected metal concentrations in the sample cores were greater than sediment cores collected by the USGS, and were similar to values measured in the fine sediment fractions of previous upstream studies.


In the United States, aerial photography has been regularly acquired, approximately one image-set per decade, beginning in the mid-1930s. Though the imagery was originally used for conservation planning and other agricultural applications, aerial photographs now play a key role in all land-use planning, many environmental studies, geological mapping, archaeological studies and other anthropogenic investigations. Historic aerial photographs can display how landscapes looked in the past and when compared to modern imagery they can be used to determine how they have changed through time. Within the state of Kansas, there are often hundreds of these historical aerial images available for many counties, but they are paper prints stored in drawers, boxes or on shelves. In many cases they can only be accessed at USDA area offices and must be sorted through one at a time. Because of the importance of these images, it is critical to preserve them in a more accessible, digital format. Emporia State University has entered into a cooperative agreement with the National Resource Conservation Service to scan and georeference these historical images to create a publicly accessible historic view of each county in which imagery from the 1930s and 1940s is available. Initial efforts have used 1930’s imagery from Lyon County to develop optimal methods for scanning, image processing and georeferencing. This presentation describes the methods that have been developed and provides an initial view of a final product.

P20 The Role of Melatonin in Neuronal Development. *Eric Ebert, undergraduate student, Bailey Lampton, Mulin He, graduate students, and Dr. Stephen Fields, Biological Sciences.

Melatonin is a hormone secreted by the pineal gland of vertebrates. Melatonin initiates a signaling cascade that leads to regulation of the circadian rhythm. Additionally, melatonin participates in a wide variety of other pathways including blood pressure regulation, fetal development, and neuronal development. The role of melatonin in neuronal development has not been well-characterized. In our research, we are seeking to elucidate the effects of melatonin on neuronal development using the model organism Caenorhabditis elegans. Previously, a bioinformatics study was completed that identified several putative C. elegans melatonin receptors. The F59D12.1 gene, coding for a G protein coupled receptor, was chosen for the current study as there is a commercially available mutant. The mutant strain has been outcrossed twice to remove background mutations, with the goal of outcrossing the strain with wildtype C. elegans 7 times. We are also currently crossing in a fluorescent GFP construct that is expressed in all cholinergic neurons. This fluorescent mutant strain will be used to study the development of cultured neurons in the presence of melatonin. Our preliminary data indicates that the lifespan of C. elegans is altered in the presence of melatonin, but the locomotion behavior appears unaffected by the mutation. We will confirm that the F59D12.1 gene encodes a melatonin receptor by examining the mutant’s behavior in the presence and absence of melatonin. The lack of melatonin-dependent behaviors will indicate a role in melatonin signaling.
**P21 Changes in Cyp2b10 Gene Expression During Cyclophosphamide Exposure and Maternal Restraint Stress.** *Mariah Emily, undergraduate student, Biological Sciences, *Elizabeth McCuistion, undergraduate student, Nursing.

Physical restraint can be used to induce consistent psychological stress during gestation and has been shown to cause developmental anomalies. Cyclophosphamide (CP) is an anticancer agent and model proteratogen that causes limb, digit, and cranial defects if prenatal exposure occurs during a window of susceptibility. In our previous studies, fetuses whose mothers were exposed to CP and restrained showed significant reductions in specific CP-induced morphological defects. The current study explored the gene expression of Cyp2b10 (mouse ortholog to human CYP2B6), one of the Phase I enzymes responsible for CP activation. Mated dams were assigned to one of 4 treatment groups: control (saline via IP injection), control + restraint, CP only (20 mg/kg, IP), or CP + restraint. On GD 17, the dams were sacrificed, and maternal livers were collected and immediately frozen at -80°C. Gene expression of Cyp2b10 was determined using quantitative RT-PCR. Dams exposed to CP only had an almost 4-fold increase in the expression of Cyp2b10, as compared to saline or restraint-only control animals. Animals exposed to both CP and restraint had expression levels slightly lower than either control group means. Due to intra-treatment group variability, no statistically significant difference was observed (P ≥ 0.05); however, these results agree with previous observations, i.e., reduced incidence of CP-induced defects in fetuses exposed to CP plus maternal stress. The current results suggest that one possible mechanism for the reduction of defects seen in our previous studies is a reduction in the biotransformation of CP to its teratogenic metabolites by Cyp2b10.

**P22 The Pandemic of Poverty.** Ben Ewing, undergraduate student, English, Modern Languages, and Journalism.

Poverty is something that has existed for as long as humans have settled into groups. This paper is about what results in poverty, and how impoverished people are kept in this disenfranchised state. In this paper I use many sources to show that the most common causes of poverty are due to governmental reasons, cultural reasons, and economic reasons. The main focuses are on these reasons in America, but there are also results from people in poverty in Haiti, Cuba, China, and South Africa. The result of looking at these countries is how their populations have dealt with poverty, and continue to survive or move out of that economic bracket. It also gives insight into how America’s government and culture serve to give impoverished people living in the country more problems. The question that I’d like to answer is: what are the causes of poverty, and how does continue to stay impoverished despite efforts to move upwards economically. This is important because poverty effects billions of people, and people shouldn’t have to live with worry of money, paying their bills, or affording food.

**P23 Alcohol Differentiation Using a Portable Raman Spectrometer.** Javier Flores, graduate student, Physical Sciences.

The purpose of this experiment was to establish the optimal parameters for comparing the Raman spectra of 18 alcoholic beverages to a library of 35 alcoholic beverages so that they could be correctly identified by type of alcoholic beverage as well as by the specific brand. The spectrometer was set to scan the samples 32 times with an integration time of 1500ms in order maximize the amplitude of the peaks in the spectra while also minimizing the amount of noise in the same, all while keeping the scan times under 30 minutes. No optimal universal spectral range or search algorithm was found, however, parameters for identifying each type of alcoholic beverage were found. For general type of alcoholic beverage identification, using the instrument’s no derivative and first derivative search algorithms produced the most consistent matches. For specific brand of alcoholic beverage identification, using the instrument’s first derivative search algorithm produced the most consistent matches.

**P24 Quantitation and Shelf-life Analysis of Methylone in Whole Blood Samples by Liquid Chromatography-Mass Spectrometry (LC-MS).** Emilia Flores Naranjo, undergraduate student, Physical Sciences.

Methylone is a schedule I controlled substance that is part of a general group of drugs with recreational usage. This group of drugs is commonly known as “bath salts”. The emergence of bath salts in drug intoxication cases has posed forensic drug casework due to the analytical challenges that its detection presents. Sensitive, reliable and reproducible analytical methods are required to detect and to identify such substance. Here we like to present
a study on method development of methylone analysis for forensic sciences applications. High-Performance Liquid Chromatography (HPLC) was used for separation and quantitation of methylone standards. Parameters of HPLC were optimized to analyze blood samples containing the synthetic cathinone; methylone. A blood extraction was performed by using a crash solvent that consisted of 80% acetonitrile and 20% millipore water. The solvent to blood ratio used was 10:1, the mixture was then rotated and centrifuged to later being filtered using a Captiva EMR-filter. The HPLC optimized conditions were as follows; a C18 column, and a mobile phase gradient consisting of 10mM ammonium formate buffer (pH 3.5) and methanol.

P25 Studies of Phosphate Signaling in *Staphylococcus aureus*. Dr. Stewart Gardner, Dylan Sinclair, Brooke Schoening, Shuaishuai Tan, and Emily Torrey, undergraduate students, Biological Sciences.

Phosphate is a component of many of the building blocks of life, including: nucleic acids, phospholipids, and proteins found in every cell. Bacteria have to adapt to varying levels of phosphate in the environment. This adaptation is mediated through a classic Two-component signal transduction system. In Escherichia coli, this system is composed of a histidine kinase, PhoR, and a response regulator, PhoB. When phosphate is limiting, PhoR autophosphorylates and, in its active state, phosphorylates PhoB. Phospho-PhoB then dimerizes and acts as a transcription factor for several phosphate response genes. Included in these genes are genes for the Phosphate Specific Transporter. These proteins form a transporter complex that pumps phosphate into the cell using energy from ATP hydrolysis. PhoU, a negative regulator, is essential for proper phosphate signal response in E. coli. Additionally, in a variety of bacteria, PhoU is involved in regulating biofilm development, antibiotic resistance, and pathogenesis. However, in Staphylococcus aureus, a major human pathogen, there are multiple PhoU homolog encoding genes. The exact role and mechanism of these remains unknown. We will study the protein/protein interactions of these PhoU homologues with phosphate signaling proteins to better understand the function of these genes in adapting to changes in phosphate levels and potentially the virulence of S. aureus as a pathogen.

P26 The Implications of a Transformational Leadership Approach in the Nursing Profession. *Breanna Gilger, undergraduate student, Nursing.*

The Transformational Leadership Theory is one of the most popular styles of leadership today, and has been the subject of many research studies. Transformational leadership focuses on creating a shared vision among members of a group, making it a lucrative option in a multidisciplinary field such as healthcare. The Transformational Leadership Theory is comprised of four components: Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individual Consideration. These components have been criticized as being abstract concepts that require further explanation to be relevant to modern practice. Current focuses have searched for relationships between Transformational leadership and various aspects of nursing, including quality of nurse work life, staff turnover rates, and patient outcomes. Reputable qualitative studies have been performed and indicate there are strong correlations between Transformational leadership practices and aforementioned aspects of nursing. Quantitative studies are needed to establish causation between these variables. In summation, the Transformational Leadership Theory has relevance to nursing, although further research is warranted.


The focus of this research will center primarily on African American Vernacular English or AAVE, as it will be referred to throughout the study, as it relates to the racialized and classist stigmatization of the dialect. Utilizing the lens of higher education the researcher conducted a study with the intent of discovering the attitudes towards AAVE and how these attitudes may affect the creators and primary users of this dialect. Research around AAVE is far from new. The Ann Arbor Black English case that took place in Ann, Arbor, Michigan from 1997-1999 opened up room for a necessary interrogation of the inclusivity of education. It was introduced that black children had inherited a dialect in their homes that often made learning spaces less than accessible more often than not. However, there is very little research on how this phenomena effects black students at the college level who utilize this same dialect still.

Repatriation under the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 is often a long and arduous process. The beginning steps of repatriation are crucial, as they involve collecting and organizing data, often from numerous institutions, and compiling it in order to have a comprehensive view of a site from which human remains and artifacts were removed. Abbott Farm is an archaeological site complex from which, for more than a century, archaeologists and amateur collectors alike took items from the graves of Delaware ancestors. These items have either ended up at several museums and universities, or their whereabouts are currently unknown. The Delaware Tribe wishes to repatriate these graves for reburial, and the research presented here reviews the work that will facilitate this process. Through reading, compiling, and organizing institution inventories, photographs, and collectors’ notes, a complex puzzle of graves, individuals, and artifacts can be put together for a comprehensive view of the site. This data compilation serves to virtually repatriate before actual repatriation ensues. The data allows the Tribe to understand what items and individuals are located at which institutions, as well as which ones may be lost. Furthermore, the gathered information provides an insight into which artifacts and individuals are affiliated versus unidentifiable and thus can lead to those with a current status of being unidentifiable becoming affiliated. With the information, the Tribe can begin to work with the institutions in order to receive and eventually reburry their people’s artifacts and remains. Virtual repatriation serves as the initial point from which the next steps in the repatriation process branch.


The State Opening of Parliament is the result of hundreds of years of tradition. Every year the Queen ceremoniously makes her way to Parliament to give a speech outlining the political agenda for the upcoming year. However, many of the rituals go back as far as the Middle Ages and are still faithfully carried out today. One example is the ceremonial role of Black Rod. It originated in the 1600s and represents an event that was a precursor to the English Civil War. In this study, I go through the intricate steps involved in the opening ceremony and how they relate to the United Kingdom’s past and present.

P30 Ways to Improve Parental Involvement in the Education System. Allison Haeker, undergraduate student, English, Modern Languages, and Journalism.

Elementary students who come from families with low-income backgrounds, typically, receive a lack of parental involvement which is why it is important for schools to implement programs/trainings that benefit both parents, teachers and students. In order to implement these positive teacher-parent interactions and involvements researchers have studied the many effects that lead to poor parental involvement. Recent studies reveal the importance of increasing parental involvement and parental networks by increasing the opportunities for volunteering, formal organizations, programs that offer cheaper meal plans and parent-teacher organizations. By implementing these, research shows an increase in students’ educational attainment and encourages the importance of involving parents to be actively involved within their children’s school. Students begin to gain support with their homework, food provided while at school and easier transportation needs are met. Revealing these results to educators is important for those who are motivated to help disadvantaged families within the educational system. It is important to raise awareness and suggest future solutions to implement within the educational system, in order to help students who, come from low socioeconomic backgrounds.

P31 The History of the Piano. Phillip Hayes, undergraduate student, Music.

The history of the piano and the known works of famous pianists.

P32 History to Go Boxes: A Collaborative Project with the Lyon County History Center. *Hailey Hilgendorf, undergraduate student, and Dr. Darla Mellein, Social Sciences.

The purpose of this project was to collaborate with the Lyon County History Center to research local history so we could create History to Go Boxes that can be loaned out to area schools as either supplements to field trips students make to the museum or as separate learning activities tied to the museum’s core themes (Natural History, Native Americans, Immigration, Business and Industry, Farming, Ranching, Transportation, and Military). The History to Go Boxes support state curriculum for grades K-12, with an emphasis on the History and Government Standards. We conducted research in the Lyon County History Center’s Archives to find a variety of primary sources that supported our History To Go Boxes’ themes, which included the home front during World War I as
well as the evolution of transportation in Lyon County. Some of the inquiry based lessons we created for the high school level WW I History to Go Box include an open sort propaganda posters activity during which students work in cooperative groups to sort World War I propaganda posters into categories based on common themes. Another activity includes a lesson about a series of love letters between an Emporia husband and wife that show the progression of war through the husband’s personal experiences. The third grade transportation To Go Box is a photo history of transportation in Lyon County and includes a variety of analysis activities students can complete by examining the photographs and related primary sources.

P33 Survey of Fishes, Turtles, and Crayfishes on the Emporia State University Natural Areas. Jack Holmgren, Dylan Osterhaus, Jacob Schaefer, undergraduate students, Biological Sciences.

Emporia State University (ESU) manages eight natural areas that offer a range of habitats, both aquatic and terrestrial, and are home to a variety of flora and fauna. Throughout the Great Plains, some fish, turtle, and crayfish species have experienced declines in range and population. To track possible changes in community composition with respect to these taxonomic groups it is vital to have a baseline understanding of species presence on the areas. The objectives of our study were to compile and organize historical data pertaining to fish, turtle, and crayfish species presence on ESU’s Natural Areas and to complete a survey of the areas to create a comprehensive list of the species present on each site. Historical data consisted of field reports from ESU faculty sent to the Director of the Natural Areas from 2004—present, past Master’s students’ theses, current studies being performed, and communications between faculty members. Surveys conducted during our study occurred from spring 2018-spring 2019. We found 42 fish, four turtle, and two crayfish species to be present on the ESU Natural Areas including new species records for six of the eight areas. Our study created baseline species presence data for the ESU Natural Areas and may serve as a reference for future sampling on these sites.

P34 Beethoven & Piano. Zhuoyi Huang, undergraduate student, Music.

A presentation about Beethoven’s life and piano works.

P35 The Opioid Epidemic: An Overdose of Narcotics and Obstacles. Kyle Humenik, undergraduate student, English, Modern Languages, and Journalism.

The severity of the current opioid crisis has always been acknowledged, but never fully understood. In order to fix this crippling problem, it is essential that we fully understand why thousands overdose and die per year at the hands of opioids. In our current justice system, addicts are thrown into a situation that never helps them and can detrimentally affect their life indefinitely. First, I review the current literature on the new types of legal regulations being suggested, in order to tackle the heart of the opioid crisis. Prison time negatively affects those with addictions and supplementing it with rehabilitation is necessary for health and safety. In addition to the justice system, I propose that we address the laws themselves as a way to prevent increased drug usage and first-time users of these dangerous substances. This will also assist at mitigating the effects the indirect and unseen victims of this crisis face. Children growing up without their parents are often forced to live with other relatives or end up in the foster care system. This negatively affects their development and will be a source of trauma for them throughout their life. Not addressing an epidemic that can lead to these dilemmas only allows them to remain prevalent. The opioid epidemic leads to a multitude of other issues and needs to be focused so it cannot continue to fuel many different social problems.

P36 The Reconstruction of the American Dream. Adriana Jasso, undergraduate student, English, Modern Languages, and Journalism.

A severe issue in the United States that has plagued the nation since the borders have been drawn is the issue of illegal immigration. The solution lies within the reason of why immigrants come to the United States. The United States gives the illusion of a land that is willing to accept and improve anyone who is willing to come within its borders; however, this does not apply to a majority of immigrants. If the United States can improve its policy on citizenship and its benefits, then more immigrants will be willing to do it legally and improve the American society.
P37 The Good of Hurricane Katrina. Tre’Zure Jobe, undergraduate student, English, Modern Languages, and Journalism.

Hurricane Katrina destroyed New Orleans, Louisiana, in 2005. However, the aftermath of Hurricane Katrina caught the eyes of many people from around the world because of the problems that were found to correlate to the with why the outcome had been as bad as they were. Three main factors contributed to the aftermath of Hurricane Katrina; poverty, segregation, and racial discrimination. With the help of Hurricane Katrina poverty, segregation, and racial discrimination destroyed the city of New Orleans, physically and figuratively. The city of New Orleans was a predominantly black community. In New Orleans there were many people who lived below the poverty line. Which mean they were not able to afford the things that they need such as transportation, housing, health, education and other important aspects for life. For most, Katrina took the lives of the people and destroyed the lives of many in New Orleans. People in New Orleans did not have money to insure their property, therefore, everything was gone. On the other hand, the government provided assistance for many people like the victims of Hurricane Katrina. For instance, Housing Choice Voucher program provides assistance for low income families. This program was designed to help assist people with paying for their house. Also health care assistance (Medicare & Medicaid passage) was intended for the families in need. With the passage of Medicare & Medicaid many people were granted this access.

P38 Determination of Heavy Metal Levels in Cosmetic Foundations Using ICP-AES Analysis. *Aidan Johnson, undergraduate student, Social Sciences.

Global freshwater supplies, including rivers, lakes, and dams, rank among the top candidates for regional interstate conflict, and this growing crisis shows particular seriousness in the Middle East and its frontiers. Agricultural lands lie worthless without water; cities lay exposed to a similar depletion; and climate change and growing populations expand these plights to serious levels of violence and conflict. The intent of this poster is (1) to review the hydrology of the Nile River to expose the current problems its exposes; (2) to examine the Nile River and especially the Renaissance Dam that Ethiopian officials currently are constructing; and (3) finally, to suggest remedies for how international pacts for water management and ownership can be constructed so as to prevent the predictable conflicts over scarce waters.


Heavy metals are a part of the composition of various commercially available cosmetic products, which are oftentimes used on a daily basis. Over time, heavy metals in those products can be harmful to the skin cells and can accumulate in tissues and organs over time giving rise to various health problems. Thus, it is important to monitor the level of heavy metals in makeup products so that health and quality control standards can be ensured. Here we presented a study of the heavy metal contents of five different cosmetic foundations, (Loreal True Match, Sassy & Chic, LA Colors, Younique Mineral Touch, Makeup 4 Ever) ranging in price and origin of manufacture. It is hypothesized that cost and the origin of manufacture are contributory in the overall quality of the makeup. Many of these metals could be added as ingredients, while others are inadvertent contaminants from the production process. Through the use of USGS sample preparation methods, acid digestion, and ICP-AES analysis, the five samples were analyzed, and the presence of ten metal elements was detected. Our findings show that all five of the samples tested, had various amounts of magnesium, iron, vanadium, and chromium. Three of the five samples analyzed contained varying levels of arsenic and aluminum.

P40 Production of Cu-67 Using Linear Accelerator. Dr. Bindu KC, Physical Sciences, and Dr. Douglas Wells, New Mexico Tech.

Nuclear medicine is one of the most important applications of radioisotopes. Over 10,000 hospitals worldwide perform tens of millions of medical procedures per year involving the use of radioisotopes and this number grows at about 10% annually [1]. However, the existing supply of radioisotopes is not able to meet the demand. Novel and diverse methods to produce medical isotopes need to be developed to satisfy the increasing need for radioisotopes. Currently, the majority of medical isotopes are produced in either reactors or cyclotrons. However, the shutdowns of nuclear reactors have caused shortages of vital radioisotopes. The safety and security concern raised by nuclear waste produced by reactors is another drawback of reactor-based production. Photonuclear
production using Linear Electron Accelerator (LINAC) provides an alternative method for the production of some radioisotopes, especially attractive in the view of certain nuclear medicine regulations governing radiopharmaceutical quality. We discuss the feasibility study of photonuclear production of medically relevant radionuclide Cu-67 performed at the Idaho Accelerator Center (IAC).

**P41 Does Cattle Grazing Affect Birds Nesting in CRP Grasslands?** Heather Kraus, graduate student, Dr. William Jensen, Biological Sciences, Dr. Mary Liz Jameson, Dr. Greg Houseman, and Molly Reichenborn, Wichita State University.

Grassland bird populations have experienced declines coinciding with loss of prairie habitat. The Conservation Reserve Program (CRP) has benefitted birds through grassland restoration in landscapes dominated by cropland. Grazing by cattle (Bos taurus), which is currently restricted in CRP, might improve habitat structure for some bird species. However, the presence of cattle might reduce nest concealment from predators and attract Brown-headed Cowbirds (Molothrus ater), brood parasites that lay their eggs in other birds’ nests. We investigated the fledging success of Mourning Dove (Zenaida macroura) and Dickcissel (Spiza Americana) nests, and cowbird parasitism of Dickcissel nests, in response to experimental grazing by cattle across 36 CRP fields in central Kansas. Fledging success was not substantially related to grazing for either species. Parasitism by cowbirds was not substantially affected by grazing, instead differed between types of CRP. The number of cowbird eggs per parasitized nest was higher in grazed versus ungrazed CRP fields in 2017, but not 2018. Based on data from the first two years of this three year study, cattle grazing in CRP does not appear to negatively affect grassland bird reproduction in terms of either nest success or brood parasitism by Brown-headed Cowbirds.

**P42 Tall Grass Prairie Pollinator Recruitment and Native Plant Success.** *Joseph LaForge, undergraduate student, Dr. David McKenzie, Dr. Allysa Hallett, and Dr. Darren Rebar, Biological Sciences.

Pollinators and their pollination services maintain native plant diversity; which in turn impacts the diversity and abundance of species that depend on those floral resources, such as herbivores and seed-eaters. Regional conservation efforts to restore grasslands primarily use spring burns as a management tool, but how that practice immediately impacts pollinator recruitment and thus wildflower seed production is poorly understood. Understanding seasonal burns is essential to restoring grassland heterogeneity and, in turn, maintaining the diversity of species that depend on those resources, such as grassland bird, insect, and mammal communities. Here, we sought to characterize the recruitment of insect pollinator communities to the native Pediomelum tenuiflorum following two different seasonal burning regimes (Spring, Fall) in a replicated experimental design. In response to the exceptional drought experienced by the plants of study we observed low primary pollinator visitation rates and minimal seed production. This minimal seed production lead to a lack of seed pods collected. Many seeds were seen to abort before reaching maturity.

**P43 The Snare Drum.** Kolin Loewen, undergraduate student, Music.

A summary of the history of the snare and other aspects dealing with the snare drum.

**P44 Bag-A-Birthday.** Genevieve Lowery, undergraduate student, Communication and Theatre.

The Lyon County area has a high child food insecurity rate. This means that many children do not have consistent and easy to nutritional meals. Extra resources to celebrate birthdays, pivotal milestones contributing to child self-esteem, are even more difficult to come by. Bag-A-Birthday is a project recently founded by the Emporia State students Rachel Castro, Delaney Dold, and Genevieve Lowery in partnership with Abundant Harvest. Bag-A-Birthday began as a class project but quickly grew to a larger endeavor when it won the inaugural Community Impact Challenge sponsored by the Emporia State Department of Communication and Theatre and began to receive incredible support from all over the Emporia community. The goal of the project is to provide low-income families struggling with food insecurity in Emporia, Kansas with the opportunity to give their children a birthday celebration. Parents will be able to pick up a birthday bag for their child at Abundant Harvest with many birthday essentials such as cake mix, frosting, candles, and balloons. The first ever Bag-A-Birthday drive is currently active until Monday, April 15th. After that, the students will deliver the birthday supplies to Abundant Harvest and organize them accordingly so the project can begin benefiting the families of Emporia. Our poster
presentation will share the research and processes that we used to start and maintain our project as well as the results of our drive.

**P45 A Look into the Life of Richard Wagner.** David Magana, undergraduate student, Music.

History over what Richard Wagner's childhood was like and the type of music that he wrote in his time. His influences and how he got started as a composer, and some of his most famous works.

**P46 Morphologic Variation, Geographic Distributions, and Taxonomic Boundaries of Map Turtles (Graptemys) in Kansas.** Michael Mahr, Justin Autz, Jennifer Buchanan, graduate students, Dr. Alexis Powell, Dr. Lynnette Sievert, and Dr. David Edds, Biological Sciences.

Kansas lies at the western extent of the distributions of four map turtle taxa—the Northern (Graptemys geographica), Ouachita (G. ouachitensis), Northern False (G. p. pseudogeographica), and Mississippi (G. p. kohnii). The occurrence and geographic distributions of these taxa in the state are poorly documented because many museum specimens lack diagnostic features, authorities disagree on what constitute diagnostic characters, and species limits are in dispute. Being morphologically and behaviorally similar, these turtles can be confused with one another in areas where their distributions overlap, resulting in unreliable identifications. Currently, the Ouachita, Northern False, and Mississippi map turtles are treated as an unresolved species complex in the state herpetological literature. Our goal is to document and analyze the geographic distribution of morphological variation related to criteria for species and subspecies diagnoses. To obtain locality records of each map turtle taxon in Kansas, we are conducting visual surveys (using telescope with camera) and catching turtles with baited traps. We are also reviewing historic records of these species’ occurrence by examining voucher specimens in museum collections. In 2017–2018, we captured 110 map turtles, all of which were easily assigned to taxa, with none having ambiguous or intermediate morphological features used in taxonomic diagnoses. We found a total of seven Northern Maps in the Missouri, Marias des Cygnes, and Neosho river drainages. We captured 13 Northern False Maps, all in the Missouri River drainage. Both the Ouachita Map (73) and Mississippi Map (16) occurred in the Neosho, Verdigris, and Marais des Cygnes river drainages.


Capillary electrophoresis (CE) is a process that takes advantage of narrow-bore fused-silica capillaries to perform high-efficiency separations of ions under electrical field. Ions separate differently with a change in size, and shape. Electrophoresis is especially useful when working with amino acids and DNA because molecules with charges can be easily separated by electrophoresis. Electrophoresis is an essential part of forensic science and electrophoresis techniques are continually being optimized. The purpose of this experiment was validation of our instrument and detection of amino acids in a sample of light beer. Approximately 200 million kiloliters of beer is consumed annually worldwide.[1] Beer contains many free amino acids that are an essential source of nitrogen during the process of fermentation.[2] Monitoring the changes in amino acids, both composition and content, is one of the measurements that are done by breweries to ensure they are producing a high quality product. By means of a custom-built capillary electrophoresis instrument coupled with laser-induced fluorescent detector, the amino acids found in light beer were successfully separated and identified. More optimization of the instrument can be performed towards laser voltage, separation voltage and capillary length. For future work, changes may have to be made to the instrument to make it capable of performing different modes of CE so the proteins in DNA molecules can be separated as well.

**P48 The Opioid Epidemic: The Targeting of White America.** Erin McNeley-Phelps, undergraduate student, English, Modern Languages, and Journalism.

This study examines how the white population has been heavily affected by the opioid epidemic. I begin by reviewing studies on the percentage of different races that are addicted to opioids. Research on effective treatment methods for addiction such as early intervention and restriction has also been used. In order to provide more options for treatments, I have discussed the idea of more education on opioids and how to get patients into classes on safe usage. I have also discussed the solution of records being kept on patients who have used opioids, in order to ensure that when they are being weaned off, they do not go to dangerous drugs. The opioid epidemic is greatly
impacting society in a negative way. The white population has been affected through companies marketing opioids and by the overall lack of education provided by physicians. My solutions to this problem are to start a clinic where people can access free classes on opioids and to also provide support for those who are currently using opioids.

P49 Hildegard of Bingen vs. Francesca Caccini. Alexandra Meneely, undergraduate student, Music.
This is a comparison and contrast of Hildegard of Bingen and Francesca Caccini which are both some of the first women to be accepted and recognized into the music world.

P50 Conflict in the Nursing Profession and How Leadership Effects Different Resolution Styles. Ashtyn Mentzer, undergraduate student, Nursing.
Conflict is an inevitable aspect of the health care profession. Nurses, therefore, must be able to implement leadership skills in order to properly assess a situation and utilize the correct conflict management style to deescalate the situation. Effective conflict management decreases tension and stress in the workplace and increases quality of nursing work life. Most importantly, it shifts the focus of the health care professionals back to the care of the patient and goals for the organization. This synthesis was conducted using ten articles regarding the topic of conflict and resolution in the nursing profession. The five methods of conflict resolution discussed in this synthesis include: accommodation, avoidance, collaboration, competing and compromising. The general results throughout the articles showed that compromising and competing were the two most commonly used techniques. The purpose of this synthesis is to determine sources of conflict, define the different methods of managing conflict, and discuss implementing leadership abilities when resolving conflict in the health care field.

P51 Preliminary Analysis of Enigmatic Trace Fossils From Upper Cretaceous Deposits of Montana. Matthew Mers, undergraduate student, Physical Sciences.
The eastern Montana badlands are composed of Upper Cretaceous (66 million years) sediments that from the Hell Creek Formation of rock layers. In 2014, a colleague and I discovered small-diameter holes that were the opening to vertical tubes in a sandstone bed of this formation. These tubes occurred in weathered cobbles of manganese oxidized sandstone, as well as in massive channel sandstone blocks. Some tubes were topped by cones of sediment surrounding the opening, which could be a result of weathering. In plan view, the holes were distributed only a few centimeters from one another, and they covered tens of meters in area. The tubes appeared to be trace fossil burrows of some sort. Samples collected of the loose cobbles showed that the burrow diameter ranged from 2 to 5 mm, but within a single burrow it was consistent throughout its length. The complete length of these fossils could not be measured due to the fact that these were from eroded samples. Nothing has been published on burrows within the Hell Creek. An unpublished 2004 Master thesis on the stratigraphy of the Hell Creek and Fox Hills formations by Jennifer Flight at the Montana State University, Bozeman, identified similar burrows as Skolithos of the Glossifungites ichnofacies, but no descriptions of the fossils were provided, only photos. Further review of the literature indicates the Hell Creek fossils may be Skolithos linearis because of the burrows straight vertical trajectory, but this cannot be confirmed without additional study of the site and specimens.

The purpose of this study was to compare the effects of sugar and ketone salts on athletic performance and cognitive function during high intensity intermittent exercise. Most research on exercise supplements involve endurance exercise and is most applicable to individual sports such as cycling or running. This study was intended to fill the gap in research related to team sports such as basketball, football, and soccer which consist mostly of high intensity intermittent exercise. Three participants completed three experimental trials in which they were given a drink containing either a ketone salt, sugar, or a placebo. The test subjects completed an exercise test on a cycle ergometer at each test session. Relative peak power, relative average power, and power drop percentage (fatigue index) values recorded by the cycle ergometer were used to measure performance. Online tests for reaction time, verbal memory, and visual memory were taken following the exercise test and used as a measure of cognitive function. Blood samples were taken and analyzed for glucose, lactate, and ketone metabolite levels. Both sugar and ketones resulted in a decreased power drop compared to the placebo. Further conclusions
comparing the effects of ketones and sugars were limited by the small sample size. Additional trials are necessary. Understanding the differences between how ketones and sugars affect athletic performance could help athletes choose better ways to fuel their body. In addition, the results of this study could help begin to reveal the biochemical mechanisms by which these supplements affect the body in general.

P53 Peptide-Polymer Amphiphiles with Different Properties for Studying Biological Interactions. *Alireza Nasrezadani, Emily Torrey, Hernan Hernandez, undergraduate students, Biological Sciences, Dr. Andea Luthi, Myranda Soifua, undergraduate student, Physical Sciences, Dr. Matthew Thompson, and Dr. Nathan Gianneschi, Northwestern University.

Peptide-polymer amphiphiles (PPAs) are tailorable polymers that can be formulated into nanoparticles with different properties. The peptide component imparts biological functionality to the polymers. Such nanoparticles have the potential to be used for various biomedical applications including novel therapeutic and drug delivery applications. Thus, in addition to developing new strategies to treat diseases, it is important to investigate how these nanoparticles interact with and affect biologically-relevant systems. The goal of this work is to determine how the physical properties of PPA-based nanoparticles affect their interactions with blood and cells. Nanoparticles with different size, surface charge and shape will be analyzed. To that end, we have synthesized the components of the PPAs. Four different monomers have been synthesized. One is a phenyl monomer that will form the core of spherical nanoparticles. The other three are peptide monomers that will give the PPAs and thereby the nanoparticles an overall positive, negative or net neutral charge. In addition, a modified Grubb’s second generation catalyst has been synthesized to make PPAs by ring-opening metathesis polymerization. Different PPAs are being synthesized for formulation into nanoparticles with different properties to then study their biological interactions.

P54 Basking Patterns of Pond Turtles (Deirochelyinae) during Winter. Ashley Nelson, undergraduate student, and Dr. Alexis Powell, Biological Sciences.

Turtles are “cold-blooded” reptiles, so like all ectotherms, depend on external conditions to regulate their body temperature and metabolism. By basking, aquatic turtles warm themselves to temperatures above those of the ponds and rivers in which they live, and thereby achieve higher metabolic rates and levels of physical activity. However, to survive prolonged extreme cold, aquatic turtles must remain submerged to avoid freezing, and so may hibernate all winter without being able to breathe, which can lead to hypoxia and acidosis. We aimed to discover whether aquatic turtles temporarily emerge from hibernation to bask or breathe at the water’s surface during the brief periods of warm weather that occur in winter at some latitudes. From late fall 2018 through spring 2019, the lead author recorded turtle activity in a pond at David Traylor Zoo and in the adjacent Cottonwood River, in Emporia, Kansas. Each site was visited three days a week, around noon. Our results suggest that turtles became dormant after water and air temperatures dropped below 7°C in early winter, and that they did not resume activity in the spring until water temperatures in the pond and river reached 10°C and 6°C, and air temperatures reached 13°C and 22°C, respectively. No turtles were observed in winter (9 November–8 March), but unfortunately, neither were any significant periods of warm weather. Mid-day air temperatures averaged 2°C and reached a maximum of only 8°C, whereas surface water temperatures ranged 0–4°C and 1–5°C in the pond and river, respectively.

P55 Oppression in Science Fiction. Desirée Neyens, graduate student, English, Modern Languages, and Journalism.

Science Fiction (SF) is a genre that is often used to discuss the “other”. People who are othred are often minority populations who are oppressed, and SF can give people living those experiences a safe space to express themselves through fictional characters. I plan to look at the idea of colonialism through an SF lens to better understand how people deal with oppression so that I can determine if the fiction responds to reality by simply reflecting it or by challenging it. I will be looking at accounts of European colonialism from the 1600’s to modern time, and the fictional SF works I’ll be analyzing will be both short stories and novels, predominately from the 1960’s to present day. I believe the fictional literature will show that SF is used as a tool to respond to oppression by subverting Colonial ideology rather than just simply reflecting historical events. Science Fiction is the literature of change, and I hope to demonstrate that it is a genre which is challenging oppression rather than perpetuating it.
P56 Does Activity of White-Tailed Deer (*Odocoileus virginianus*) Vary between Human-Hunted Areas and Refuges? Dylan Osterhaus, undergraduate student, and Dr. William Jensen, Biological Sciences.

Hunting by humans impacts behaviors of targeted species, similar to what is observed in other predator-prey systems. Managed wildlife areas commonly have refuges where hunting is prohibited. Deer (family Cervidae) are commonly hunted species and their behavior might differ between such refuges and areas outside refuges where deer hunting is permitted. We predicted that white-tailed deer detections would be higher in refuges than in hunting areas as populations seek refugia from hunting, and that detections would be greatest at night in hunting vs. refuge areas. Using camera traps in refuge and hunting areas on two public wildlife areas in eastern Kansas, we calculated detections of individual deer per hour and categorized days into four time periods (dawn, day, dusk, night). Detection rates of deer overall (sexes pooled) did not vary significantly between refuges and hunting areas. Unexpectedly, male detection rates were higher in hunting areas than refuges. Differences in deer detection rates among time periods were marginally significant for deer overall with detection rates being higher during dawn than daytime, apparently driven by activity of females. Sizes of the refuges in our study might not have been large enough to negate the effects of hunting pressure on deer behavior. Despite standardization of habitat characteristics, habitat differences between refuge and hunting areas may have also affected deer behavior. It is also possible that hunting pressure during our study (18 October – 15 November 2018) was not high enough to alter deer behavior. Future study is warranted to account for these variables.

P57 The Impact of Storage Conditions, Sample Volume, and Collection Technique on Blood Alcohol Concentration in Non- Decomposed Defibrinated Sheep’s Blood. Christian Pascaul, graduate student, Dr. Sharee Lambert, Dr. Melissa Bailey, Physical Sciences, and Carrie Hodges, Kansas Bureau of Investigation.

After attending this presentation, attendees will have a better understanding of the long-term effects of collection technique, time, temperature, sample volume, and the presence of excess glucose on the blood alcohol concentration (BAC) in non-decomposed defibrinated sheep’s blood. The potential of encountering a blood sample from a person with elevated blood glucose due to type 1 or type 2 diabetes or other metabolic disorders is relatively high in the US, with an estimated 30 million or more US citizens having been diagnosed with diabetes as of 2015. To date, the effect of excess glucose on blood ethanol concentrations in stored blood samples has not been studied. Blood samples in DUI cases are also stored for various lengths of time before analysis depending on the agencies policies, backlog, and testing resources. This presentation would impact the forensic science community because it would demonstrate how the percentage of ethanol is affected when the blood sample is collected and stored under various conditions over a 5-month period, including how the presence or absence of excess glucose (>240 mg/dL) affects the BAC over time. The results indicate that the presence of excess glucose and collection method do not significantly affect ethanol concentrations. The other results of this study were consistent with other studies in that sample volume and storage temperature had small effects on ethanol concentration over time, although they were not forensically significant (most changes <0.02 g/dL).


A survey of the life and works of the Finnish composer Jean Sibelius.

P59 Metagenome of a Kleptoplastic Dinoflagellate. *Ana Perez-Lebron, undergraduate student, and Dr. Stephen Fields, Biological Sciences.

Kleptoplasty, gaining nutrition from the photosynthates of “stolen” chloroplasts, appears to mimic the early stages of chloroplast acquisition. We are interested in characterizing cellular processes involved in maintaining these functional, foreign chloroplasts. Gymnodinium acidotum is a freshwater, kleptoplastic dinoflagellate that emerges from sediments as an aplastidic cell, but soon thereafter becomes photosynthetic by ingesting chloroplasts and nuclei from cryptomonad algae in the genus Chroomonas. We are only able to maintain G. acidotum in co-cultures with Chroomonas sp. Our short-term goal is to formulate an organic growth medium that replaces chloroplast nutrition in order to maintain unialgal cultures of aplastidic G. acidotum populations. Before using antibiotics to eliminate bacteria (and any possible obligate symbionts), we characterized the 16S metagenome of individual dinoflagellate cells. Two bacterial genera, Stanieria and Rickettsia, were present at low densities in plastid-containing G. acidotum cells, but these genera were not associated with aplastidic G. acidotum.
cells. It is possible that Stanieria and Rickettsia are symbionts associated with the Chroomonas algal cells ingested by G. acidotum. We have also amplified and sequenced the 18S rDNA of cryptomonad nuclei sequestered in dinoflagellate cells taken directly from the lake. These data indicate that the cryptomonad kleptobiont is 94-98% identical to Chroomonas coerulea. We will begin antibiotic treatments on aplastidic G. acidotum cells to eliminate transient microbes so that we can grow the dinoflagellate in an organic medium. We will then use whole genome sequencing to identify genetic elements transferred from the cryptomonad to the dinoflagellate genome.

P60 Franz Liszt. Jessica Ramirez-Auman, undergraduate student, Music.

My poster and subject matter follows a short biography of Franz Liszt's life, though additionally focuses heavily on the skills he helped develop that have become widespread and long-lasting core elements of music. The poster talks briefly about his early life, career, and later life, but detours to discuss elements such as thematic transformation and symphonic poems.

P61 Escaping the Curriculum: Young Adult Literature, Escapism, and the ELA Classroom. Caylie Ratzlaff, undergraduate student, English, Modern Languages, and Journalism.

As a lover of Young Adult Literature (YAL) and teaching, I aspire to be a future educator who uses YAL in combination with traditional canonical works. The research for this paper is predicated on YAL and how escapism can be used within a classroom. I define escapism as the ability for readers to “escape” into a work, thus forming transactional relationships with the characters and worlds present in texts. YAL has a litany of research about what it is, but it lacks information concerning applications of the genre outside of what is traditionally known; additionally, escapism is not a term referenced often within academia. Furthermore, while English/Language Arts (ELA) pedagogy has been exposed to more YAL usage, I believe all ELA classrooms need to include at least one YA text in their curriculum to engage students better. While I do not isolate a select Young Adult text in this research, I reference some as examples of the pedagogical methods for implementing YAL in a classroom. This includes strategies such as scaffolding and bridging texts. My research also includes an examination of Common Core Standards in teaching YAL. A teacher’s goal should not only be to challenge students, but to also provide them with materials they can form connections to – creating a more active love of reading and learning in the process. Young Adult Literature is truly a conduit to having students better understand canonical texts better and fostering lifelong readers.

P62 A Preliminary Analysis of a Juvenile Triceratops Skull and Lower Jaw and Comparison of Juvenile Ceratopsian Characteristics
Erin Roberts, graduate student, Physical Sciences

A juvenile Triceratops skull and lower jaw was collected in 2014 from the Upper Cretaceous (66 million years) Hell Creek Formation of rock layers near Jordan, Montana. Main elements from the skull (Emporia State University Paleontology Collection specimen number ESU 2014-1) include the parietal part of the frill, the right brow horn, partial left brow horn, the right upper jaw bone, a partial of the left upper jaw bone, and a left nasal bone. Both left and right lower jaws were collected, along with the lower jaw beak bone (predentary). The size of the skull material and the posteriorly curving brow horn indicate that this was an older juvenile specimen. Comparisons among Triceratops juveniles as well as comparisons among juveniles of other ceratopsian species focused on ontogenetic features. According to Horner and Goodwin, characteristics of juvenile Triceratops are backwards curving brow horns, large eye sockets in comparison to the size of the skull, delta shaped frill perimeter bones (epoccipitals), and unfused nasal bones. In babies, the brow horns had a straight up orientation, whereas in subadults the brow horns curve forward, although their tip angled upwards. A comprehensive survey of the ceratopsian literature revealed that besides the size of the individual, juvenile characteristics common to most ceratopsians include (1) relatively large orbits, (2) frills that have not expanded laterally but do have wavy (scalloped) surfaces, (3) bone surface texture has long parallel grains (striated), (4) unfused nasal bones, and (5) unfused skull sutures.

P63 Saxophone. Alissa Robinson, undergraduate student, Music.

This presentation will cover topics including the inventor of the saxophone, how saxophones work, the history of the saxophone, and will briefly discuss popular music for the saxophone.
Sugar, Spice, and Everything (Not) Nice: The Effects of Red Pepper on Resting Energy Expenditure and Macromolecule Oxidation. César Sanchez, undergraduate student, Biological Sciences.

Capsaicin is the chemical compound found in chili peppers which has been shown to help raise energy expenditure and can aid in weight loss. Therefore, the purpose of this study is to examine the effects that red pepper (RP) has on Resting Energy Expenditure (REE) and the Respiratory Quotient (RQ). Fourteen people participated in this study (mean ± SD; 76.15 ± 13.84 kg, 173.35 ± 10.27 cm, 20.14 ± 1.56 yr). Each participant attended two where their REE and RQ were measured with a metabolic cart. Five minutes after breathing, a mixture of water and dextrose (D) (1 g/kg body weight) or water, D, and RP (.1 g/kg body weight) was given to the participant. Half received sugar-water, the other half received the sugar-water with RP. For the next 45 minutes, the participant had the mask attached to a headpiece. Paired samples t-tests indicated that there was no difference in total test time RQ between the control and experimental sessions (D = .87 ± .04, RP = .86 ± .05, p = .556). In addition, there was no difference in total test time REE between the conditions (D = 1809.51 ± 338.0 kcal, RP = 1912.50 ± 319.32 kcal, p = .187). These results suggest that the addition of RP to one’s diet may not have a significant effect in increasing REE and lower RQ. Further research on this topic is needed as the sample population was limited to a small number of people that were readily available to participate.

Frederic Chopin. Henry Satterfield, undergraduate student, Music.

This presentation is for my Music Appreciation class and has a lot of interesting information. It includes fun facts and also things like his famous works and what he is well known for. I will also include facts such as his lifespan and his opportunities growing up in Poland.

Aquatic Turtles on Four ESU Natural Area’s. Jacob Schaefer, graduate student, Biological Sciences.

A small survey of the turtle species found on four of the seven ESU natural areas with bodies of water.


Stress is a major problem that everyone deals with and you should know that you are not alone. Our campus has many resources that can help with this issue including soon to be our groups work and research with Sarajo Mance. She is an Honors College student who is making a course on the learning platform Canvas as a resource for students called Mental Health Knowledge Program (MENT). Within this course there are multiple modules covering many different aspects of mental health our group is completing the Stress portion of this online student resource. The Stress module that we are completing as a part of MENT will have a survey students can take to assess themselves based on how often the participant in the survey relates to each stress related situation provided. Along with this we will also be including other informational resources that will be based around stress for example how to cope with stress and plans of actions to take if you are dealing with stress. As well as partnering with Mance for MENT with the focus on stress our overall goal is to bring awareness to the resources that already exist on campus to combat stress and for more students to utilize them. The largest resource going unnoticed is the Student Wellness Center, they offer many free options to help students with stress including counseling, yoga classes, and more. For this poster we hope to spread awareness of the mental health outlets on campus and for MENT to help students better take care of themselves in times of facing stress.

Opioid Abusers needing Proper Management. Randi Schlote, undergraduate student, English, Modern Languages, and Journalism.

Physicians have begun to stop prescribing opioids to patients with chronic pain, cancer patients and anyone suffering from a terminal illness. People who are experiencing chronic pain when they are not prescribed opioids they turn to more explicit street drugs which can also lead to overdose, HIV, and Hepatitis. While people who are suffering with chronic pain deserve to have a high quality of life doctors cannot forget their addiction or violate their medical ethics. People who do suffer from addiction after using prescribed medications need the proper management to overcome their addiction. However, it is uncommon for one to come forward with their addiction which leads to the problem of opioid addiction.
P69 The Concept of Observation and Inferences in Science. Brittany Schmidt and Zachary Fasbender, undergraduate students, Physical Sciences.

In 2013, the Next Generation Science Standards (NGSS) became part of the curriculum to be taught in public schools. The NGSS includes a category called the nature of science. The nature of science includes seven principles of that science is founded on tentativeness, reliance on empirical evidence, observation and inference, scientific laws and theories, scientific methods, objectivity and subjectivity, and creativity. This literature review will be emphasizing the “observation and inference” portion. By definition, observations are notes on what is physically sensed whereas inferences are the inductions and conclusions that are drawn from the observations. When these definitions are not understood, the two are confused. Not knowing evidence from the conclusions made from them negatively affects students’ scientific literacy. The purpose of this literature review is to find specific examples of observations and inferences from previous scientific publications to highlight and analyze how scientists use them to find new discoveries.

P70 Creativity in the Nature of Science. Madalynn Schmitz, undergraduate student, Physical Sciences.

Through years of research and test scores, it has become apparent that the Nature of Science (NOS) is something that is fundamental for students and their understanding of how the world works. From kindergarten to 12th grade and beyond, the concepts taught through NOS give the foundation for learning, one of the most important being creativity. In the study, it was found that creativity plays an important role in the nature of science as well as science as a whole. Historical vignettes, on specifically earth science, were pulled and examined for examples of how creativity has played a key role in progressing the scientific community. The analysis revealed that every major progression in science used some kind of creativity and would not have been found without thinking “outside the box”. This study will further explain the relation between creativity and science, and how this can be brought into teaching science in all grades through the use of NOS.


Schubert is a representative of early romantic music and is considered to be the last master of classical music. Schubert was born into a family of teachers on the outskirts of Vienna. Since childhood, he has studied violin and piano with his father and brother. When he was young, he showed his special talent in music creation. In just 31 years of life, Schubert has left a lot of musical wealth to future generations. He has created more than 1,000 works, including more than 600 songs, 18 operas, operas and accompanying music, 10 The symphony, 19 string quartets, 22 piano sonatas, 4 violin sonatas and many other works add a dazzling brilliance to the world of music treasures. He is known as the "king of songs" in the history of music. He wrote a lot of songs for the works of many poets, such as John Wolfgang Goethe, Friedrich Schiller, Heinrich Heine, Wilhelm Muller, etc. Poetry is closely combined. Schubert is known for his lyric melody and is always natural and natural. He has a persistent pursuit in music, and all the works handed down are intoxicating, so his musical talent can be said to be the world's attention.

P72 Are You Smarter Than A 6th Grader? Dr. Qiang Shi, Mathematics and Economics, Laura Albertson and Ashley Burbett, Emporia Middle School, and Shibo Gao, undergraduate student, Mathematics and Economics.

The Inspired by Math program is a year-long math enrichment program in Emporia, Kansas. The program attracts motivated and talented middle school students in Emporia and nearby cities. The program is in the third year and is a joint effort between Emporia State University and Emporia Middle School. This presentation will give an overview of the program. We will also showcase some math problems and activities the Inspired by Math students have been working on. Can you answer these fun math problems? Come to challenge yourself and win prizes! The Inspired by Math program is funded by the MAA Dolciani Mathematics Enrichment Grant, Emporia State University, Emporia Middle School, and Wolf Creek Nuclear Operating Corporation.

P73 Johannes Brahms. Qiagian Song, undergraduate student, Music.

Johannes Brahms, born in Hamburg, died in Vienna, German composer of classical finally, mid romantic composers. Brahms on the title of music and Wagner do not agree with the form of music, pure music line. His important works include: "the first symphony (" Beethoven's symphony no. 10"), and two piano concertos, the first piano concerto in d minor "and" B major second piano concerto, violin concerto, violin concerto in d major ",
"the piano quintet in f minor", the orchestra "college festival overture, chorus" deutsche requiem, variations on a theme by Haydn, "variations on a theme by paganini" and "Hungarian dance music".

**P74 History of the Horn.**  Zachary Stephey, undergraduate student, Music.

Starting from 6000 years ago with an animal horn to the present day double Horn, I take you through the history of the Horn and how it has improved over its 6000 years of existence!

**P75 The Mouse Thanatomiobiome and its utility in Postmortem Interval Estimation.**  Molly Still, graduate student, and Dr. Scott Crupper, Physical Sciences.

Determining an accurate postmortem interval (PMI) is a critical piece of information needed to gain a thorough understanding of the circumstances surrounding a death. Since microbes are ubiquitous and play a significant role in decomposition, examining changes in microbial succession patterns may provide an alternative method to establishing a more reliable PMI. In this study, we utilized a mouse model system to examine microbial succession patterns in the liver postmortem. Mice were sacrificed by CO2 asphyxiation and separated into four groups; a control group (zero day postmortem), seven, fifteen, and twenty one day postmortem groups. At the indicated PMI, livers were removed and total DNA was isolated from each liver sample. Subsequently, the V3 hypervariable region of the 16S rRNA gene was amplified and sequenced on an Illumina MiSeq platform. Our results indicate Clostridium species dominated in all three groups whereas Lactobacillus species accounted for only a small proportion of the total thanatomiobiome. However, in two of the twenty one day PMI mice where the total percentage of Clostridium species was significantly lower, Lactobacillus species accounted for the majority of the genera identified. The Shannon Species Diversity Index, which measures species richness, significantly increased from approximately .021 in the control groups to 0.78 - 2.4 in the seven to twenty one day PMI groups, illustrating that decomposition is mediated by a wide variety of microbes. In total, results obtained are in agreement with previous human cadaver thanatomiobiome studies which have noted a “Clostridium Postmortem Effect”.

**P76 New Specimens of Chiromyoides (Mammalia: Plesiadapidae) from the Late Paleocene Shed Light on the Evolution and Biogeography of the Genus.**  Nick Thurber, graduate student, Physical Sciences, Matthew Jones, graduate student, and Dr. K. Christopher Beard, University of Kansas.

Plesiadapids are small to medium-sized lemur-like mammals typically among the most common found in Paleocene (56-66 million years) faunas from North America and Europe. They have been argued to be closely related to early primates. One of the lesser known plesiadapids is the genus Chiromyoides, six species of which have been described from the Tiffanian and Clarkforkian, the most recent land mammal ages of the Paleocene, of western North America. In contrast, only the originally named species Chiromyoides campanicus and the recently described Chiromyoides mauberti are known from upper Paleocene deposits of northern France. Recent evolutionary analyses of Chiromyoides species yielded unresolved ancestry. Based on a review of previously collected material and a wealth of newly collected Chiromyoides specimens, we report new fossils of the species Chiromyoides major from southwestern Wyoming and Chiromyoides gigas from western Colorado. At least one new species of Chiromyoides is described from the late Tiffanian of southwestern Wyoming and southwestern Texas. Using a computer program that compares similar and different fossil traits, I was able to determine previously undescribed shared derived features in the newly described species and in C. major, indicating that the evolution of Chiromyoides was more complicated than the simple hypothesis of older species giving rise to younger species. Within Chiromyoides, there is strong support for a unified group that includes the two European species and the two youngest North American species. Available data therefore suggest that Chiromyoides originated in North America and dispersed to Europe relatively late in the Paleocene.

**P77 String Bass History.**  Kaitlyn Trotter, undergraduate student, Music.

A poster presenting the start of the string bass instrument, all the way up to the modern double bass known today. Plus an in depth fact driven informing poster about the instrument itself and the kind of music associated with the instrument.
**P78 The Viola.** Andrew Villaca, undergraduate student, Music.

The viola is a member of the string family and a staple of orchestras and string quartet. It often plays the role of the alto voice in ensembles. This presentation will be a display involving the history of the viola and information in regards to it’s use in music.

**P79 The Women of Feminist Theory and Art History.** Rita Vittori, undergraduate student, Social Sciences.

This is a presentation covering research completed over feminist theory and art history. The women and their theories will be presented in relation to feminist theory in America and feminist views in art history.

**P80 Species Composition of Established Soil Microbiota Surviving on Cellulose.** Guanpeng Wang, graduate student, *Joseph LaForge, graduate student, and Dr. Stephen Fields, Biological Sciences.

Cellulose, the major component of plant biomass, is largely indigestible and therefore unavailable as an energy source to most organisms. Some bacterial species use cellulase enzymes to hydrolyze cellulose and release sugar subunits for subsequent metabolism. This work aims to characterize species composition and metagenomic features of microbial communities that survive solely on cellulose. Ten soil communities (C#) were established on carboxymethylcellulose (CMC) as an organic carbon source. Universal primers for fungal 18S rRNA indicated that fungi are not present in these communities. 16S rRNA metagenomic sequencing identified the “Operational Taxonomic Units (OTUs)” comprising each bacterial community. The total OTUs/microbiome ranged from 33 to 236, and the relative abundance of each OTU was derived from the total number of sequences reads. OTU4 and OTU5 were the only OTUs common to all ten communities. OTU4, similar to an uncultured Pseudomonas, is a relatively minor component of most communities, but it comprises over 99% of C4. OTU5, related to E. coli, does not comprise more than 0.2% of any community. Three distinct “clades” consist of 2-3 communities. C4 and C5 had no apparent similarity to other communities. Growth on four different cellulose-based substrates was evaluated for each community. The C6-C7-C9 clade demonstrated the most consistent and rapid growth on all forms of cellulose. Achromobacter (OTU7) was the predominant component of these communities. The degree of stratification of cellulase genes amongst different species of each community is being determined with whole metagenomic sequence data.

**P81 The History of Science in the Natural World.** Ellen Welander, graduate student, Physical Sciences.

This research analyzes how one aspect of the nature of science, Science Addresses Questions about the Natural and Material World, is represented in the history of science. To examine this, I conducted a literature review of two books that concerned the history of science and investigated how scientists in the past tried to answer problems naturally instead of supernaturally. My results showed at least 23 scientists from the past utilizing science to specifically answer a problem in the material world that had previously been answered through supernatural means. Results also revealed that most of the paradigms that these scientists had to go against were religious in nature. This study emphasizes that science throughout history has always concerned the material and strives to answer questions about the world naturally.

**P82 Claude Debussy.** Alora Wilder, undergraduate student, Music.

Claude Debussy (1862-1918) was a French composer during the Romantic Era. He was considered the first Impressionist composer and instrumental in early 20th century music.

**P83 The Harpsichord.** Sydney Wolsleger, undergraduate student, Music.

The creation and timeline of the use of the harpsichord in the baroque period.

**P84 Peter Ilyich Tchaikovsky.** Jingdian Wu, undergraduate student, Music.

Tchaikovsky was born on May 7, 1840, in the family of a mining engineer and director of an official metallurgical plant. He graduated from St. Petersburg Law School in 1859 and served in the Ministry of Justice. In 1861, he enrolled in the Music Class of the Russian Music Association (which was transformed into the St. Petersburg Conservatory of Music the following year). In 1863, he resigned from the Ministry of Justice and devoted himself to music. After graduation in 1865, he taught at Moscow Conservatory of Music and actively created his first
works. Subsidized by the rich widow Mrs. Meck, she quit teaching in 1877 to specialize in creative work. From 1878 to 1885, he traveled and performed many times in Western European countries and the United States. He received an honorary doctorate from Cambridge University in June 1893. He died shortly after the first performance of Symphony No. 6 in Petersburg at the end of October of the same year. Tchaikovsky's works reflect the depressed mentality of the Russian intellectuals under the Tsarist rule and their deep desire for a happy and happy life. Tchaikovsky's works focus on revealing people's inner contradictions, full of strong dramatic conflicts and passionate emotional colors.

**P85 Acoustic Classification of Bird Species Using Wavelets and Learning Algorithms.** *Song Yang, undergraduate student, Mathematics and Economics.*

Can a computer determine the species of a bird when the computer “hears” the bird’s song? Our study is trying to answer this question. More specifically, we derived an effective and efficient algorithm to identify bird species based on bird calls. Classifying bird species is useful in real applications, such as determining the health of an ecosystem, or reducing the bird-aircraft strikes by identifying hazardous species of birds near an airport. Well-trained ornithologists can identify the characteristics of birds. However, such a process requires many man-hours. Our research is intended to develop a semi-automatic classification algorithm. We segmented long recordings into shorter syllables and then used wavelet transformation to reveal important parameters of the syllables. A dataset formed by the instances and associated parameters was used to train and test a variety of classifiers. Among all the classifiers we tested, our result showed that Support Vector Machines and Random Forest achieved the highest classification rate. This project is one of the projects funded by the 2018 Emporia State University Summer Undergraduate Research Program.

**P86 Scarlatti.** Yongyi Yang, undergraduate student, Music.

Scarlatti’s family, his birth and death day, his life introduction, and his work and his contribution for the music.

**P87 Rapid Separation and Determination of Amino Acids in Unregulated Dietary Supplements.** Shelby Young and Kenadee Palmitier, graduate student, Physical Sciences.

Many dietary supplements such as amino acids are recalled due to possible harmful effects caused by contamination, the absence of a component claimed to be in the product, or the presence of more or less of the ingredient displayed on the label. However, the law does not require dietary supplements to be proven safe according to FDA standards before they are put on the market. It is up to the manufacturer to certify the product’s safety and that any claims made about the product are not false or misleading. This experiment aimed to perform amino acid analysis of Aminocore, a product containing branched chain amino acids (BCAAs), using capillary electrophoresis (CE). Aminocore is a soluble powder containing the amino acids L-valine, L-leucine, and L-isoleucine commonly marketed to reduce muscle tissue breakdown and increase anabolic muscle cell signaling. The method presented here could not separate L-leucine and L-isoleucine. Therefore, the amount present was determined for both amino acids together. A calibration curve was obtained using certified laboratory standards of these amino acids. The standards were prepared in triplicate with tetraborate buffer, potassium cyanate, and NDA to initiate fluorescence that the detector could quantify. The calibration was verified with a quality control resulting in less than 15% error. Three Aminocore samples were prepared and analyzed with the same preparation and instrument parameters as the standards. The separation and detection of amino acids for each run was within 20 seconds.

**P88 Optimization of Capillary Electrophoresis for Detection of Amino Acids.** Silei Zhang, undergraduate student, Physical Sciences.

In human bodies, there are 20 standard amino acids are required in human bodies, they play necessary roles in human bodies. When taken up into the human body from the diet, the 20 standard amino acids either are used to synthesize proteins and other biomolecules or are oxidized to urea and carbon dioxide as a source of energy. However, there are nine essiential amino acids could be produced in human bodies, some amino acid needs to be obtained from food supplies, for example, lysine, histidine, threonine, methionine, valine and so on. For investigating kinds of amino acids in food supplies, chose the method Capillary electrophoresis (CE), a powerful chemical separation technique has been presented here. For this research, buffer solution was sodium tetraborate
buffer. To prepare the sample, amino acids were reacted with NDA (naphthalene-2,3-dicarboxaldehyde) and CN-to produce fluorescence product, which can be detected by a laser-induced fluorescent detection. Besides, we presented the optimized experimental conditions, for example, the diameter of capillary as micrometers units, high separation voltage, injection voltage and injection time. These results showed that the separation of multiple amino acids can be performed within 20 seconds with high resolution and efficient separation.

SCHOOL OF BUSINESS

P89 The Business Culture of Norway. Dylan Brown, graduate student, and Dr. Joyce Zhou, Business Administration.

In the contemporary world of international business, disparities in cultural exposure and a lack of mutual cultural understanding can significantly hinder the ability of businesspeople to work together effectively. Setting aside the veritable plethora of potential linguistic, political, and religious differences that may exist, the fundamental ways in which individuals from different regions and cultures interpret and approach problems that are prevalent in the field of marketing, and in business in general, can vary immensely. One may choose to analyze the nation of Norway to gain a deeper understanding of the country's unique business culture; in truth, Norway's rapid growth in terms of wealth and its rise to prominence within the international business community provides a unique context for a fascinating case study of one country's unique approaches to marketing and business as a whole; specifically, one may choose to place the country's business culture into perspective by framing the general Norwegian attitude toward business within a broader evaluation of Norway's culture. Thus, in order to gain a fuller comprehension of the wide variety of elements which collectively shape the prevailing business culture in Norway, one must understand how the nation's business culture has formed over time and what features currently define it.

P90 Consumer Loan Delinquency. Kyle Hug, undergraduate student, Business Administration.

My presentation will be on the correlation between credit scores, debt ratio, and delinquency on consumer loans. Data was provided by a local financial institution.

P91 Chinese Parents’ Gender-Role Perception and Product Choice for Young Children. *Xinwei Liu, undergraduate, and Dr. Joyce Zhou, Business Administration.

This study investigated whether Chinese parents who have children age 5 or younger would choose a different entertainment product based on the child’s gender. Participants in the study were 341 Chinese parents. They took a gender-role survey after reading an informed consent form. In this descriptive design study, we randomly selected participants from parents who have children attending two Chinese kindergartens. Participants completed an online questionnaire adapted from the Child-Rearing Sex-Role Attitude survey. The results of this study suggest that participants who take the gender-role survey exhibit few gender stereotypes regarding choices of entertainment products for their young children. This study has implications for understanding consumer behavior of Chinese parents and marketing to this particular market segment.

P92 The Effect of Fancy Brand Names on Consumers' Decision-Making. Tingxuan Lu, graduate student, Dr. Joyce Zhou, and Dr. Jun Yu, Business Administration.

A name is one of the important components of a product which is directly communicated to the customers. Product naming is considered a critical part of the branding process, which affects the brand image. Companies spend a tremendous amount of time in selecting the names for their products. English playwright William Shakespeare (1564-1616) once said,” What is in a name? That which we call a rose, by any other name would smell as sweet.” This quote reveals the name of an object could be called something else with the same characteristics and attributes, but giving more positive reflection and imagination. This research will examine the effect of fancy brand names on consumers’ decision-making process including how consumers feel about fancy-name products and generic-name products, how satisfied consumers would be for fancy-name products compared to generic-name products, whether they would consider paying more for fancy-name products, etc. Implications for product naming will be discussed. The purpose of this research is to identify the different effects of fancy-naming and generic-naming. When naming is done well- be it for a business, a brand, a product, or anything- it
paves the way for a good impression, enticing the listener or reader to come in closer (Willem Van Lancker and Greg Leppert, 2018). With the development of branding, after the late eighteenth century, the method which used city signs on products as a form of brand symbol to indicate the origin of products, revealed the branding products had certain “associations” and “perceptions” among consumers (Okonkwo, 2007). Gobe (2010) pointed out “Emotional Branding” which focuses on the desire to transcend material satisfaction and experience emotional fulfillment. Also, the previous study shows that fancy-color named product was liked more than the generic-name product, and customers were willing to pay more for the fancy-color-named product than for the same product with a generic color name (Skorinko, Kemmer, Hebl & Lane, 2006).

**P93 Expression Through Art.** Carissa McAfee, undergraduate student, Business Administration.

Expression Through Art is a concept that explores the necessity and enjoyment of the combination of speech and motor skill strategies with art, music and theatre activities. This three-part workshop series tailored every activity to special needs students while also gauging the understanding of the mentors they were paired with.

**P94 Adjusted Poverty Rates in Kansas Counties; Emphasis on Counties with Universities.** Tami Schaefer, graduate student, and Dr. Marc Fusaro, Business Administration.

Poverty rates are essential for describing how much of a county, state, or nation is considered to be poor. Economists and other decision makers use poverty rates regularly. Poverty rates in college towns can be inflated because of how the poverty rate is calculated. Poverty rates are usually calculated by including students who live off campus and excluding students who live on campus (dorms). We contend that students should be viewed differently than families in poverty because they can get financial help from their parents, scholarships, and/or grants. In our research, we adjust the poverty rate to see how college students affect it in all the counties in Kansas. Our research study starts with calculating an unadjusted poverty rate which includes all college, graduate, and professional students and then calculate an adjusted poverty rate where any college, graduate, and professional students are excluded. Our results show that two out of the four counties (those with large universities) went from the worst six to middle of the pack. Lyon and Crawford County remain low but are out of the bottom 10 and Ellis County went from the 75th percentile to the 23rd percentile. The rankings of all five counties also improved by at least nine places.

**SCHOOL OF LIBRARY AND INFORMATION MANAGEMENT**


This research poster will present the findings of a comparative study of the educational accessibility policy and practices in three of the world's largest countries in terms of both population and GDP, and representing three continents: the United States (North America), Nigeria (Africa), and China (Asia). Our poster will summarize findings in the form of descriptions of policies, procedures, and practices of accessibility for educational technology and antecedents of change in each of the three nations. Significant effort will be made to contextualize the findings within the existing literature and offer specific practical measures that be implemented in schools, advising, and research to improve the state of accessibility and equity for individuals with disabilities as an international issue. This research is informed by diffusion theory, most notably discussed by Everett Rogers. Through comparative analysis, the aim of this research is to identify the major antecedents both of accessibility policy change and the adoption of accessible technologies/compatibility (screen reader compliant content, transcripts for recorded lectures) in large countries. The findings may support targeted advocacy and awareness of this important issue. Each of the three researchers working on this project was born in one of the three countries studied, which brings a personal familiarity with the state of accessibility in these countries. Each also has recent experiences both as a student and a teacher that clearly highlighted the need for this research. In presenting the poster, the researchers will provide their unique perspectives and anecdotes to support the research findings and implications.
P96 Making It Accessible: Converting a Blended Graduate Course to Full Accessibility. Dr. Sarah Sutton and Dr. Andrew Smith.

One of the major tenets of library science, expressed in the Code of Ethics of the American Library Association (2008) is the equitable provision of information and services to all library users. As educators of future librarians, it follows that we should extend this equitable provision of information to our students, regardless of any limitations. This poster discusses the work of two professors in SLIM, each teaching two sections of a required course in the Master of Library Science degree program, LI 855 Collection Development and Management, to make all elements of the course fully accessible in compliance with the 508 Refresh of the Rehabilitation Act of 1973 (United States Access Board, 2017). The course is taught in a blended format, with 15 online modules supplemented by two intensive face-to-face weekends of instruction. The poster addresses issues of understanding accessibility requirements; learning and deploying new software tools; using accessibility checkers; captioning video lectures; coping with incompatible hardware and software configurations; analyzing existing course materials; making materials accessible or creating new, accessible materials from scratch; online versus face-to-face instruction; and time requirements; as well as problems that arise and particular things to avoid. This should be of interest to anyone concerned with the accessibility of their instruction to their students. References: American Library Association. (2008). Code of Ethics of the American Library Association. United States Access Board. (2017). Information and Communication Technology (ICT) Final Standards and Guidelines.

P97 How the West Was Women: A Literature Review of Women's Journey West. Allyson Urban, graduate student.

When looking at history, you see the accomplishments that the men had, but what about the women? Hollywood has given a misrepresentation of the lives of women who traveled westward. They were there with the men as they journeyed and also endured the same hardships. These women had to work hard and fight for their livelihood. These women served as innkeepers, missionaries, and record keepers of life west (of the Mississippi River). Women were also able to prove that they can do anything a man can do. This literature review will let you experience different stories and be able to see the variety of ways that women had to live to survive.

P98 The Northeast Kansas Library System: Results from Stage 1 of a Historical Case Study. Dr. Michael Widdersheim and Danica White, graduate student.

The purpose of this poster is to present preliminary results from Stage 1 of a historical case study of the Northeast Kansas Library System. Stage 1 of a historical case study includes source collection and analysis. To date, over 830 archival, interview, and fieldwork sources were collected. Information from these sources is used to establish a narrative description of the case, a chronology of key events, and a periodization of the case. Moving forward, these source materials will be systematically coded in Stage 2, the data collection and analysis stage.

TEACHERS COLLEGE


Background: A D2 collegiate football player sustained an ankle injury at football practice on August 15, 2018. He has had no previous injuries to his left ankle. The athlete wore a CAM Walker Boot for four weeks without improvement of symptoms. He tried returning to play which caused pain in his ankle. He consulted further medical attention which led to a diagnosis, osteochondral defect of the talus, and surgery. Differential Diagnosis: Other possibilities were a subluxation, a small chondral fracture, a bone contusion, or a grade one sprain of the deltoid ligament. These were all apparent in the imaging that was done. Treatment: Immediately following the injury the athlete was given ice. Once back in the training room, a wrap and crutches were given to the patient to make him non-weight bearing. After being reevaluated, the patient did Estim and GameReady with elevation to reduce pain and swelling. A few days later the athlete started rehabilitation exercises. When the patient went in for an MRI, all exercises were stopped until surgery was done. After surgery, the surgeon's protocol is followed for rehabilitation. Uniqueness: This case is unique because it first presented as an ankle sprain, but after weeks of no improvement more tests were done. Each time the athlete had imaging taken, a different diagnosis was made until a surgeon finally made a medical diagnosis and performed surgery. Conclusions: The patient is about a month
post-operation, he is still seeing the surgeon for follow-up appointments. At this point in his rehabilitation, the only treatment that can be done is Estim, but it does not seem to have an effect, so the patient is waiting until the surgeon gives more protocols.

**P100 How to Get Students From a Large Metropolitan City Interested in Higher Education.** Dwayne Bradley, undergraduate student, Elementary Education, Early Childhood, and Special Education.

Many students have an interest in pursuing higher education but lack the support and resources to get their questions answered. The college and career center is a resource for students who wish to pursue higher education. Utilizing the center is key to successfully increasing the higher education enrollment rate of students in our generation. However, if students are unaware of the services offered by the college and career center, how will they receive the help they need to access higher education? After reviewing several scholarly articles, the research firmly supported that only a limited number of students access the college and career center. Additionally, once the access rate of minority students and underserved areas were included, those numbers continued to dramatically decrease. This research study seeks to understand the critical information students hold or lack regarding college access and why they may walk away from pursuing their dreams of higher education.

**P101 Lateral Ankle Sprain.** Thomas Burns, undergraduate student, Health, Physical Education, and Recreation.

This is an injury of a basketball player of the right ankle. The injury includes the anterior talofibular ligament and calcaneofibular ligament. Both of these ligaments were sprained in a practice. With fluid being distally in the syndesmotic area this could be close to the anterior tibiofibular ligament. Without special tests and only palpation this could be possible. The athlete is instructed to be in a boot until the bruising of the medial malleolus and the lateral talar dome have diminished. Not many ankle sprains have both the anterior talofibular and calcaneofibular ligament. The athlete is starting aquatic exercises to help build strength in the ankle and range of motion until the bruising of medial malleolus and lateral talar dome subside.

**P102 Juggling in VR.** Dr. Michael Butler, Dr. Keith Pfannenstiel, and Dr. Paul Luebbers, Health, Physical Education, and Recreation.

I will be sharing information on my research (in progress) involving using VR to teach juggling. I will be sharing some data from the research but also demonstrating the apparatus and procedures. This will involve setting up the VR equipment (so I will have need a custom space and electrical). Limited audience participation will be encouraged.

**P103 Therapeutic Art and a Celebration of Milestones.** Sue Cliff, graduate student, Counselor Education.

Learn how to design a personalized graduation card utilizing watercolors, collage, and other art supplies. The creation of a handmade card will provide the participants with an opportunity to announce their educational achievement with family and friends. This art-based activity will provide exemplars as well as art supplies.

**P104 Cryotherapy Effectiveness and Benefits.** Tristan Damme, undergraduate student, Health, Physical Education, and Recreation.

Objective: To educate people on effectiveness and benefits of cryotherapy. Some different types of cryotherapy can be whole-body cryotherapy, which I talk about later, cold compression therapy and different types of ice packs; normal ice in bag, reusable ice packs and instant ice packs. Background: Cryotherapy is a cold therapy that helps treat many health and physical problems. For example, it may help with, arthritis, muscle pain and soreness, but ultimately helps put the body in the optimal condition for healing. Description: Cold therapies, such as cryotherapy, gets extremely cold and takes around 2-3 minutes to complete but depending on what treatment, area of treatment, and treatment goals possibly make the treatment duration change. Cryotherapy acts by treating many different health problem; for example, acute injuries and inflammation. Clinical Advantages: Cryotherapy used alongside other rehab techniques and therapeutic modalities possibly make it capable to obtain more, or even better, results if combined together. Clinical use brings about possible benefits for the athletes and patients. Conclusion/Recommendations: Cryotherapy treatments and techniques that are capable of making more of a hassle to get, other cold modalities may be more beneficial for budgets and current situations.

Objective: To bring knowledge to the assessment of Iridology for the early prevention and detection of illness/disease of family history. Background: Integrated Iridology is a non-invasive examination of the eye focused on the iris. Iridology uses the structures in the iris to get insight on one's health or future health. Description: Iridology studies the iris stretching from color and pattern to the shape of the eye. The iris connects to all parts of the body giving insight to the health and even a look at past family health. Clinical Advantages: This technique is easy to use as no procedure will be needed. An image is taken of the iris and is further examined by an Iridologist. Conclusions/Recommendations: Being that an integrated iridology examination is non-invasive the treatment would be recommended to get an early detection and knowledge of family health.


Kinesiology tape can be used on many injuries including sprains, strains and patellar pain relief. Kinesiology tape can be applied and worn through workouts, showers and other everyday activities. There are many ways kinesiology tape can be used to help the athlete. The tape can be applied as a way of extra support to help with joint stability. It can also be used to help reduce range of motion to help with rehabilitation of existing injuries. Kinesiology tape is very easy to use and can be used anywhere on the body. The tape is very flexible and moves with the body, it can also be cut into a variety of shapes and sizes specific for the athlete and their injury.

P107 Making Courses Accessible. Tengzhang Huang, graduate student, Instructional Design and Technology.

My presentation, Making Courses Accessible, will describe the process for evaluating faculty course materials in Canvas for accessibility and making items out of compliance, accessible. Universities across the country are now demanding that all courses need to be made accessible for learners with disabilities. Based on this demand, the main purpose of this project is to make course materials accessible to these learners. ESU has a good learning environment and a strong teaching force to bring a nice learning experience to all the learners in the school. However, many courses in the school are still not very open to disabled learners. In other words, most of the learning materials and content of the courses are not accessible. In this presentation, I will talk about what problems I faced when I tried to modify an inaccessible course, and how I used the instructional design model to devise a solution, using technology to modify unreachable content in Canvas, documents, and video, and working with my project client. I will show the process used for this project and how I solved these problems in the presentation.

P108 Art and Reflective Writing Research: Using Oil Pastels and Journal Writing with Young Adults (in their 20s). Lindsey Hylen, graduate student, Counselor Education.

Creative art and writing are ways people can express themselves and utilize their imaginations. Both are valuable forms of expression and have a range of different uses. Additionally, making art and writing can be therapeutic. Individuals are able to release their emotions and thoughts through imagery and writing. Further, artmaking and writing may help people cope, process, and reflect on their experiences (Ayala & Zaal, 2016; Cobb & Negash, 2010; Cologna, John, & Johnson, 2011). My pilot study combined making art with oil pastels and writing a reflective piece. My poster will introduce my pilot study and will include implications for future research. Oil pastels were the chosen media for my pilot study because they can be manipulated in various ways such as smearing, smudging, layering the colors, etc. This manipulation makes the media unique and enjoyable for many individuals. I was interested in the combined use of oil pastels and writing. Writing and making art are often used separately, but combining both might help people gain insight and new perspectives on their feelings, behaviors, and actions (Ayala & Zaal, 2016; Cobb & Negash, 2010).

P109 Learning Analytics and Student Success: Ensuring all Learners Have a Chance at Success. Joshua Key, graduate student, Instructional Design and Technology.

As universities are offering more online courses and programs, it is essential to support students’ academic success. This becomes even more important in accelerated distance courses, where students complete a full semester’s work in much less time. This study contributes to the field by exploring the link between LMS data and final grade as well as interviewing students to shed light on students’ experiences in accelerated distance
courses. Ninety-one students in seven online, seven-week graduate courses across two semesters participated. Five categories of variables were mined: timeliness, login regularity, page views, actions taken, and communication. The variables in this data were analyzed with t-tests between the highest-performing learners and all other learners, and a multiple regression analysis to identify predicting variables for final grade. Eight participants were interviewed regarding their experience in these courses. Submission timeliness and login regularity were statistically different between the highest-performing group and the rest. A multiple regression to predict final grade was conducted using four independent variables. The model accounted for 54.7% of the variance of final grades. Of the four, on-time submission and regularity of log-in behaviors significantly predicted final grades, while regular actions taken and communication did not. Timeliness was more strongly related to final grade than regularity. In interviews, students expressed their perceptions of the online course, online learning behaviors, self-regulation, and the online course design. They noted the lack of reflection time in the accelerated schedule despite efforts at self-regulation and time management. Implications, limitations, and future studies are discussed.

P110 Let's Talk About Your Self(ie): Raising Student Voices. Dr. Amanda Lickteig, School Leadership, Middle and Secondary Teacher Education.

Although Google launched their Google Arts & Culture app and website in 2016, they added an update in December 2017 that allowed individuals to submit a selfie through their “Is your portrait in a museum?” function (Held, 2018). Google then searches through its database of paintings and presents the user with a percentage match of a portrait that resembles them. Many users have posted the results to social media using the hashtag #GoogleArts and while some portraits present a close reflection, others are pointing out that a lack of museum representation is creating poor matches for non-white users—pairing some individuals with street art and others with cartooned murals, for instance. As middle and secondary-level students flex their voices to share their own stories, digital tools and online media (such as “Is your portrait in a museum?”) provide teachers and their students avenues to consider some of the poignant questions posed by fellow educator Franki Sibberson — “Whose stories are missing?” and “How can our students use their voices to create change in their communities?” This poster presentation will share ways that teachers can call upon the intersection of media and digital literacies using online tools (such as Google Arts & Culture) as a platform to engage students in consuming and creating multiple texts (apps, infographics, websites, online news stories, poems and prose, etc.) that recognize and challenge the ways in which some stories are elevated and others silenced.

P111 Family Drawings in Art Therapy. Chelsea Litfin and Samantha Lawrence, graduate students, Counselor Education.

This presentation features two studies that used art therapy assessments to analyze how participants portrayed their families. The study by Chelsea Litfin compared how fathers and mothers were portrayed in the Kinetic Family Drawing (KFD) and the Family-Centered Circle Drawing (F-C-C-D). Data collected from nine participants were analyzed by distinguishing categories and trends among the drawings based on parental interactions, proximity, and associations. The study by Samantha Lawrence analyzed father absence and its effects on family portraits. The study collected 57 sets of data and examined the correlations between father absence, divorce, single parent households, and the images and themes used in family portrait drawings.

P112 Kansas Free for Arts. Taylor Lonergan and Salma Moustafa, graduate students, Counselor Education.

KFA is a local non-profit organization that aims at was established to enriching the community of Emporia through creativity and collaboration with visual and musical arts. KFA programming is designed as well as promotes individual well-being, education about arts and music, and professional development to its volunteers and interns. As ESU Art Therapy interns, we would like to share information about the studio information and hours of operation with to ESU students, faculties faculty members, and the Emporia community as a way to introduce our open studio space and workshops, as a resource of for learning, socializing, creating, and more perhaps most importantly self-care.

After researching the importance of ankle taping and ankle bracing, we can conclude that the decision of whether taping or bracing would be the best option depends on the individual and their condition. Both have multiple benefits and also show some negative feedback after athletes have performed with bracing and taping for both sports practices and games. Research shows that both may provide the essential support one may need during performance prophylactically or functionally. However, some schools may not have the financial stability to buy tape for an entire season for all sports that need it. With that being said, researchers say that ankle taping can be more personalized to an athlete and their specific injury. Ultimately, research tells us that when working to prevent ankle injuries bracing is the best approach, but when dealing with an athlete with an ankle injury, taping is most beneficial as it can be customized, and additional support may be added for the specificity of the injury and the individual.


An increasing number of physical therapists in the United States and throughout the world are using dry needling to treat musculoskeletal pain. To examine the short-, and long-term effectiveness of dry needling delivered by a physical therapist. Eligible, randomized, controlled trials included those with human subjects who had musculoskeletal conditions that were treated with dry needling, performed by a physical therapist, compared with a control. The initial search returned 218 articles. After screening, 13 were included. Physiotherapy Evidence Database quality scale scores ranged from 4 to 9 (out of a maximum score of 10), with a median score of 7. Eight meta-analyses were performed. In the immediate to 12-week follow-up period; studies provided evidence that dry needling may decrease pain and increase pressure pain threshold when compared to control/sham or other treatment. At 6 to 12 months, dry needling was favored for decreasing pain, but the treatment effect was not statistically significant. Dry needling, when compared to control/sham treatment, provides a statistically significant effect on functional outcomes, but not when compared to other treatments. Very low-quality to moderate-quality evidence suggests that dry needling performed by physical therapists is more effective than no treatment; sham dry needling, and other treatments for reducing pain and improving pressure pain threshold in patients presenting with musculoskeletal pain in the immediate to 12-week follow-up period. Low-quality evidence suggests superior outcomes with dry needling for functional outcomes when compared to no treatment or sham needling.

P115 Piriformis Syndrome: A Long-Distance Runner. Daisuke Monda, undergraduate student, Health, Physical Education, and Recreation.

Background: A patient was 22 years old, woman long-distance runner. In June 2018, the athletes came into the athletic training room stating that she had had ongoing and increasing pain in her right buttoc. In the end of August 2018, she was diagnosed with right piriformis syndrome. Differential Diagnosis: Ischial bursitis, ischial tuberosity apophysitis, hamstring tendonitis at ischial tuberosity origin, and stress or avulsion fracture of the ischial tuberosity. Treatment: She conducted the strengthening program since she was diagnosed. She underwent dry-needling by a physical therapist in September 2018. The pain had relieved for 3 weeks and she stated that pain was getting better, but it still existed on the same spot. She still continues to do stretching and strengthening of the hip. Uniqueness: The athlete is very sensitive to pain. When she felt pain on the right hip, she stopped exercises. In that situation, athletic training staff needs to explain why she had pain over and over. Thus, athletic training staff needed to consider her psychological conditions as well as physical conditions. Conclusions: While running, the Trendelenburg sign was observed during the right mid-stance. The weakness of her right gluteus medius could be a cause of this symptom. Therefore, strengthening training is a key to relieve pain. However, she is very sensitive to pain. Because of that, the strengthening program has to consider her psychological aspects each day.

P116 College Students’ Hope, Body-Esteem, Motivation, and Participation in Exercise. Maria Moylan, undergraduate student, Psychology.

Snyder, Irving, and Anderson (1991) defined hope as the motivation to set meaningful goals and the belief to achieve those goals. I furthered the understanding of the role of hope in health behaviors by studying the relationship between hope, body-esteem, motivation in exercise, and participation in exercise. Participants in this study were 104 undergraduate college students at a medium-sized Midwestern state university. Participants completed four different scales measuring each of the constructs, and I performed a multiple regression using
SPSS to determine whether hope, body esteem, and motivation for exercise predicted participation in exercise. Health-related motivation for exercise, being an athlete, and level of hope predicted participation in exercise while body esteem did not predict whether participants exercised. Knowledge of the role hope plays in overall well-being is important for improved health outcomes and a clearer understanding of why people choose healthier lifestyle behaviors.

P117 Exploring Therapeutic Benefits of Utilizing Art Therapy with Students in Specialized School Settings. Jordan Nooney, graduate student, Counselor Education.

This poster presentation provides a brief overview of art therapy and its therapeutic benefits. The primary focus is on specific observations, benefits, outcomes, and media interventions that have been utilized by a graduate student at her internship sites in specialized schools.


Objective: To share information about the purpose of acupuncture and to see if acupuncture is a credible treatment. Background: Acupuncture is a very old form of treatment that is used to promote the process of healing. Acupuncture comes from the Chinese about 3,500 years ago. This type of treatment is used mostly for chronic conditions or to help relieve stress. Description: There are over 2,000 acupuncture points in the human body. The needles are hair thin and cause little to no pain when being inserted. They then cause pain sensation to be altered, which allows pain to be temporarily relieved. Acupuncture can also help to loosen muscles when stretching does not seem to be helping. Clinical Advantages: This technique can be performed in a clinical setting because it does not have many side effects and is relatively safe. No medications are needed to decrease pain, just make sure a certified professional performs the acupuncture. Conclusion: Acupuncture is an inexpensive treatment used to decrease pain. Also, acupuncture is a more mental way of healing compared to proven medical treatments like ultrasound or electrical stimulation. Acupuncture is still being researched and studied more in depth.


Objective: To inform readers about cannabidiol (CBD) and its uses. Background: Many life altering conditions are often treated with traditional medicine routes. In recent years, patients and medical professionals have begun turning to a more natural way of treating these conditions by using CBD oil. Description: CBD is a compound found in cannabis that does not alter a person's state of mind. The legality of CBD oil varies from state to state. CBD oil also comes in a variety of mediums to be used by patients, such as edibles, topical, and creams. Clinical Advantages: CBD oil has the potential to treat epilepsy, various anxiety disorders, pain, cancer symptoms, and even acne. Studies show that patients with Lennox-Gastaut syndrome that use CBD oil have significantly lower symptoms. Conclusions/Recommendations: After speaking to a doctor, and possibly trying other medications first, CBD oil can be an option for patients suffering from various conditions. The NCAA has strict rules on the use of CBD oil in athletics.

P120 Therapeutic Thematic Arts Programming. Ritchie Patterson and Kamri Roofener, graduate student, Counselor Education.

The Therapeutic Thematic Arts Programing (TTAP) method is a dynamic art therapy approach utilized in the treatment of cognitive decline, dementia, and Alzheimer’s disease in older adults. TTAP is employed by art and recreation therapists in elder care communities. Introduced by Dr. Linda Levine-Madori, TTAP is a nine-step, evidence-based art intervention method that is designed to enhance and protect existing cognitive functioning. When using this method, the focus is placed on social engagement, integration of life experiences, the importance of individual freedom and choice, a variety of artistic experiences, and a client’s overall well-being.

P121 Reforming Teacher Education Coursework for Internationalization. Dr. Connie Phelps, Dr. Sonja Ezell, Elementary Education, Early Childhood, and Special Education, and Dr. Luisa Perez, English, Modern Language, and Journalism.
Preparing high quality teachers for the future requires teacher educators to incorporate professional standards, purposeful activities, and effective techniques related to globalization with strategic intentionality. Following a two-day “Internationalization of Teacher Education” workshop funded by the Longview Foundation, three Emporia State University faculty members examined teacher education preparatory coursework to advance professional knowledge, skills and dispositions of future teachers well beyond the local classroom environment. From an affective perspective, they considered challenges in the 17 United National Sustainable Development Goals as an interconnected blueprint to address poverty, inequity, climate, environment, prosperity, peace, and justice challenges as potential curricular areas for adaptation and innovated. Faculty implemented pedagogical changes in their teacher education coursework to reflect the Four Domains of Global Competence to (a) investigate the World, (b) recognize perspectives, (c) communicate ideas, and (d) take action. Collectively, their curricular changes acknowledged diversity of PreK-12 gifted learners based on professional standards; engaged second language learners in real world learning through videotaped interviews; and implemented graphic organizers in early childhood clinical experiences for teachers to view themselves as change agents. Philosophically, their pedagogical innovations in content and clinical coursework at the university level modeled practices and dispositions for future teachers to use with PreK-12 students in their own classrooms. Outcomes included Spanish methods preservice teachers who added global competencies to their lesson plans; Early Childhood interns who shared sense of common purpose with sustainable goals; and Gifted program students who created professional learning experiences on special populations of high ability learners for colleagues.

P122 Art Therapy and Combat PTSD. Hannah Rose, graduate student, Counselor Education.

This poster provides an overview of the use of art therapy with veterans and military service members who have posttraumatic stress disorder (PTSD). Through examination of the population and its needs, the uses of art therapy to meet those needs, and identification of useful directives to help clients with combat PTSD, an understanding can be gained of how to help and serve this population.


Dry needling is effective in reducing the number of trigger points. Dry needling is done through a technique of inserting a thin needle into the trigger point to relieve persistent pain. The persistent pain is caused by the trigger points within the myofascial tissues, also known as muscle tissue. There are three main models of needling: myofascial trigger points model (MTrP), radiculopathy model, and the spinal segmental sensitization model. The MTrP and spinal segmental sensitization models include injections of lidocaine or electrical stimulation. Injections are a part of wet needling and thus will not be talked about. Breaking of the tension pattern within the strained muscle bundle is caused by the insertion of the needle into the point of tension, causing a reflex contraction and forcing the bundle to release and relax. The pattern is broken within the trigger points based on where the needles are place and how deep. With dry needling not being covered by insurance, it can range in cost. It is still a very useful therapeutic modality when performed by the appropriate official. It can relieve the area of pain and restore normal function to the contraction-relaxation cycle.

P124 Unknown Hip Pain Due to Former Labral Tear. Haylie Schmidt, undergraduate student, Health, Physical Education, and Recreation.

The acetabular labrum deepens the acetabulum and is a thick ring of fibrocartilage. Someone with an acetabular labrum tear will have localized dull groin pain with intermittent sharp pains. Pain may extend into the lateral hip or butt. The athlete is a single, twenty-two, Caucasian male, Division II right handed baseball pitcher. He had acetabular labral repair July 13th, 2016 and is still having reoccurring pain a year and a half later. The athlete was diagnosed with right hip pain postoperatively with an unknown diagnosis. Due to the type and location of pain iliopsoas tendinitis, right hip flexor strain, trochanter bursitis, or femoral acetabular impingement can be possible diagnoses. Cortisone injections into the hip were used to help to manage the athlete's pain, but they didn't last but a few days. Electrical stimulation and ice were being used to manage his pain, as well as Tylenol and Voltaren gel as needed. Pain after a hip arthroscopy for a labral repair is common, but an orthopedic specialist was unable to diagnose the athlete's hip pain a year and half after the surgery. The athlete has stopped coming in to manage his pain and has begun dressing out for competition. He pitched one inning on April 29th, 2018.

Introduction: The effect of buoyancy created by water reduces the stress that is normally placed on a person's joints when on land. Purpose: The purpose of this investigation was to examine the effects of stretching in warm water on lower body range of motion. Methods: Twelve college students (age = 20.75 ± 1.28) participated in this investigation, and completed three testing sessions, with a minimum of 24 hours between each. Each participant performed warm water stretching, land stretching or acted as a control in each session. The V sit-and-reach method was used to measure lower body range of motion before and after each session. A one-way ANOVA was utilized to analyze the change from baseline between groups. Results: The results indicated that stretching both on land and in warm water resulted in a significant (p < .05) change from baseline range of motion when compared to the control group. Conclusions: From the results, we concluded that stretching, whether on land or in warm water, helped the participants gain short-term flexibility. Practical Application: Knowing this data, a person can make an educated decision on the appropriate stretching method for themselves.

P126 Hands on versus Lecture Learning and Undergraduates Test Scores. Lyndsey Stuart, undergraduate student, Psychology.

This study was about which type of learning (lecture learning or hands-on learning) students learned better with. The 40 participants built three different structures out of Legos; one group had only a PowerPoint and then the second group had a PowerPoint and me to demonstrate how to build. Then they completed a survey. I predicted that if a group of participants learned how to assemble an item out of Legos hands on, then when tested they would assemble the item faster than a group that just had the PowerPoint. However, I found that there was no significant difference in how long it took to build the Lego items. This is useful information because students should understand learning styles so they can retain information for future use.

P127 School-Based Art Therapy for Children and Adolescents. Lisa Tenpenny, graduate student, Counselor Education.

School-based art therapy specifically addresses the needs of children and adolescents (ages five to 18). For the purpose of this presentation, particular attention will be given to students with attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and other behavioral disorders, in school. Common needs for these populations includes, but are not limited to, developing and improving emotional and social regulation skills as well as developing communication skills. The needs for these populations shift throughout the individual’s development. Art therapy can normalize the therapeutic experience by allowing children and adolescents to communicate through art, which is, many times, a familiar medium for this age group. Art therapy can improve social, emotional, and behavioral factors in children and adolescents and can improve their mental health. Art therapy has been found to be inviting to children and adolescents because of the use of art, and this could impact the level of engagement in the therapeutic experience. Group art therapy directives could benefit children with ADHD, ODD, or other behavioral disorders in improving social and communication skills.

P128 The Transgender Umbrella. Hilary Wallace, graduate student, Counselor Education.

The dialect of the LGBTQ+ community is ever evolving within the fluid existence of gender, sexuality, and romance. One branch of the community in particular, the transgender community, holds a wide variety of terms and identifications within its leaves. “Transgender” has been a term of confusion and stigma within the wider transphobic culture of the United States. For individuals within the umbrella, the term is but one facet of their identity. The transgender umbrella is made up of 7 and counting gender identifications and expressions. This poster displays a visual of the many perspectives that make up the transgender community and how they compare and contrast. The purpose is to sift through the overwhelming nature of the growing identifications of the LGBTQ+ community and provide a simple-to-follow design of the transgender umbrella. Within the visual presentation of this poster I hope to accomplish awareness of the dynamic nature of LGBTQ+ community and the unacknowledged diversity of the transgender community. Keywords: gender, sexuality, LGBTQ+, transgender

P129 Worry Dolls in Art Therapy: Examining Three-Dimensional Containment of Anxiety. Susie Wecker, graduate student, Counselor Education.
Statistical data and research indicate that many people within the United States experience anxiety and therefore interventions that could decrease anxiety symptoms are worthy of investigation. This study was conducted with the intention of building upon what has been observed as helpful in reducing anxiety symptoms with art therapy: containment of negative feelings or experiences through the art process. The study was designed to investigate whether creating, and having access to, a tangible, three-dimensional, containing, art-object could reduce participants’ anxiety. Although data from the study was insufficient to determine statistical significance, post-test results indicated at least a minor degree of reduction in participants’ current level of distress, fear, anxiety or discomfort through the process of creating worry dolls.

P130 Sensory Deprivation. Trevor Williams, undergraduate student, Health, Physical Education, and Recreation.

Sensory deprivation tanks are becoming more popular all the time. Sensory Deprivation is a therapy technique that involves the removal of one or more stimuli. Though there are many forms of sensory deprivation, the methods of which are discussed in this paper involve the use of tanks, rooms, or pods where the patient will not be able to feel or sense much of anything. Most research on sensory deprivation is on the flotation method. However, the research regarding sensory deprivation in all forms have shown to be very positive, especially for those who suffer from mental illness. Anyone can use it, which means the treatment is safe for all types of people. Depression sufferers will benefit most, as the research shows that sensory deprivation can alleviate the symptoms temporarily.

P131 Girl Power: Cultivating Confidence, Self-Respect, and Assertiveness in Adolescent Girls. *Chieko Zimmerman, undergraduate student, and Dr. Melissa Reed, Elementary Education, Early Childhood, and Special Education.

Girls and boys have always grown up with cultural and societal stereotypes. Despite the unparalleled access to opportunities that young women have today compared with the past, many still absorb strong messages about how they should look, act and be. For girls, many of the most powerful influences come from the media. Social media has changed the game, requiring educators and parents to change strategies to help girls navigate complicated waters. Kansas social-emotional and character development (SECD) skills encompass intrapersonal and interpersonal abilities, such as social and self-awareness, problem solving, and decision making. These are skills that can be taught and are foundational to student success in school and life. It’s important for schools to measure the social and emotional development of students, just as academic development is measured. These measures can inform instructional practice, moving social-emotional learning from a singular endeavor to an integrated part of daily instruction. This research project explored ways that girls can be empowered in the classroom by educating young girls in a week-long summer academy called G.E.M.S. The purpose of this project was to provide educational experiences to determine the impact on young girls social-emotional needs. Qualitative methodology was used to collect data. A Likert Scale pre-/post-survey was given to measure each girl’s attitude, values, culture, and beliefs before and after attendance at G.E.M.S. Daily exit slips, interviews, and a focus group were also part of the data collected. Data was analyzed for themes to correlate education experiences which impact the girls’ social-emotional skills.

We want to thank all of the presenters and exhibitors for participating in Research and Creativity Day!
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