Fall Student Research Symposium
Schedule of Events
October 4, 2023
Nebraskan Student Union Ponderosa Rooms

Wednesday, October 4, 2023

2:30 – 3:30 pm ..... Open poster viewing, Ponderosa A&B

3:30 – 5:15 pm……. Oral Presentations-Ponderosa C & D

5:30 – 6:30 pm……. Banquet
Dr. Julie Shaffer, Keynote Speaker

Undergraduate
Oral Presentation Schedule

Wednesday, October 4, 2023

Session 1 Room: Ponderosa C

3:30 pm----- ***Conner Brown:*** *Cannabidiol Regulates Cholesterol Uptake via Pregname X Receptor (Mentor – Yipeng Sui)*

3:45 pm----- ***Carlos Hernandez:*** *Development of a Model for Peanut Allergy in Drosophila melanogaster (Mentor – Alexis Hobbs)*

4:00 pm----- ***Megan TenBensel:*** *Rhodanine-indolinone carboxylic acids as inhibitors of serotonin N-acetyltransferase (Mentor – Jayne Jonas-Bratten)*

4:15 pm----- ***Samii Ponce-Hernandez:*** *Microsatellite Analysis of Walleye in Lake McConaughy, NE (Mentor – Melissa Wuellner)*

4:30 pm ---- ***Kim Larbey:*** *Investigation of the Evolution of Galaxy Properties (Mentor – Joel Berrier)*

4:45 pm----- ***Anh Ho:*** *K-Pop Photocards and Fandom Culture (Mentor – Ngan Chau)*

5:00 pm----- ***Riley Schmohr:*** *Examining the Difference in Muscular Force and Power Production among NCAA Division II Football Players (Mentor – Quincy Johnson)*

Session 2 Room: Ponderosa D

3:30 pm ----- ***Tracy Roskop, Gabby Grace:*** *An Exploratory Survey on the Use of ChatGPT in Teaching and Learning from Future Teachers Perspectives (Mentor – Martonia Gaskill)*

3:45 pm ----- ***Elizabeth Cifuentes, Jaime Colon:*** *Teaching in a Time of Artificial Intelligence: Pre-Service Teachers Perceptions of AI and its Impact in K12 Schools (Mentor – Martonia Gaskill)*

4:00 pm ----- ***Kenny Mitchell:*** *The Creation of a Literary Magazine: A Self-Study of 'Do Geese See God': A Literary Magazines' Engagement with the Literary Community (Mentor – Brad Modlin)*

4:15 pm ----- ***Coleman Riggins:*** *'Do Geese See God' – Rhetoric in the Design of the Magazine (Mentor – Brad Modlin)*

4:30 pm ----- ***Trinity Angle:*** *Intersectionality & the Masculine Box in Function: Gender Capital and Masculine Spaces (Mentor – Janet Graham)*

4:45 pm ----- ***Tyler Clay:*** *Ghosts and Spirits in Opera Libretti (Mentor – Anne Foradori)*

5:00 pm ----- ***Karina Boatright:*** *ZEN Meet Nebraska (Mentor – Derrick Burbul)*

Undergraduate Abstracts

Art and Design

Karina Boatright
Mentor: Derrick Burbul
Title: *Zen Meet Nebraska*

Simplicity is close to my heart and reminds me of my identity. Wabi-Sabi aesthetics and Japanese philosophy Zen, are at the core of my work. Furthermore, the quote of the Indian poet and philosopher Rabindranath Tagore, “It is very simple to be happy, but it is very difficult to be simple,” remains with me.

I created a Nebraska landscape photograph. It is approximately 40 inches by 34 inches. The state of Nebraska, where I live, is linked to my identity and Tagore's quote. At first glance, there seems to be a puzzle between Wabi-Sabi aesthetics, Japanese philosophy Zen, Tagore's quote, and a Nebraska landscape. However, the dots of these elements connect and this work, ZEN Meets Nebraska, emerges. This photograph was created by layering cyanotype on platinum print and placed in four pieces in a wooden frame measuring 17 inches x 20 inches. The platinum print used a digital positive film and finished as a negative print. The cyanotype reflected a positive printing. In addition, a positive image was superimposed on the glass by inkjet printing using a transparent film.

My interpretation of Zen philosophy is to eliminate what is unnecessary and keep what is necessary. It is not a question of right or wrong, good or bad. Wabi-sabi finds beauty in decaying imperfections. It simply exists in conjunction with Zen philosophy, Wabi-Sabi aesthetics, and the word "simplicity" that comes from Tagore's quote. This is what Nebraska looks like to me.

Lastly, my goal is to make people smile through work that reflects my identity. I hope you are smiling.

Mariana Paredes
Mentor: April White
Title: *Silver in Victorian Era America: An Artistic and Historical Interpretation of Silver*

The G.W. Frank House Museum of History and Culture is a historical institution dedicated to preserving a part of the city of Kearney's development. It can be found on the campus of the University of Nebraska at Kearney. held an opportunity for me to gain experience in exhibition curation. I took interest in art history and museum work and by the mentorship with the museum director April White, I began building my experience in data collection, cataloging, and maintenance museum-related tasks. The project would involve researching the use of silver as a material and its role as a luxury object to develop a permanent exhibition with Frank Family artifacts. The exhibition is to educate the public on the collection of silver-plated dinnerware and pieces of jewelry while providing the historical significance of the items. Through my research, I discovered that in the 19th century, sterling silver was a material most found in fine dinner sets adorning the centers of the dining tables. Manufacturers in the 19th century began to invest in efforts to market silver items as a status symbol and as fine art. Silver had become a commodity for wealthy individuals showcasing their taste and affluence. The discovery of silver in Nevada in 1860's brought opportunities for manufacturers to ship and manufacture domestically. Business owners and tycoons commissioned silversmiths to design elaborate presentation silver objects to honor a business partners and high members of their social circles. Although silver has been utilized primarily for currency, cultures from around the world have found aesthetic, medicinal, and technological purposes for the metal. Its malleability, appearance, and chemical properties has shaped modern medicine, photography, textiles, and electrical power distribution.

Biology

Conner Brown
Mentor: Yipeng Sui
Title: *Cannabidiol Regulates Cholesterol Uptake via Pregnane X Receptor*

Cannabidiol (CBD) is a chemical commonly used in treating pain, anxiety, inflammation, and insomnia. It is implied that CBD is associated with cholesterol homeostasis, but it is still unclear how chronic exposure to CBD influences human lipid metabolism. Our preliminary data suggest that CBD is an agonist for human Pregnane X Receptor (PXR), a xenobiotic nuclear receptor, which is established to play a role in atherosclerosis and hyperlipidemia. In the current study we use human intestinal cells, human hepatic cells, and mouse models to study if CBD affects lipid metabolism through PXR signaling. Our data suggest that CBD activates PXR in a dose-dependent manner. The presence of CBD induces the cholesterol uptake by human intestinal LS180 cells, but not in PXR inhibitor treated cells. The wild-type mice fed CBD display the increased circulating total cholesterol levels in a PXR-dependent way. Our study will be the first to explore the cellular and molecular mechanisms by which exposure to CBD activates human PXR and increases the risk of dyslipidemia.

Carlos Hernandez
Mentor: Alexis Hobbs
Title: *Development of a Model for Peanut Allergy in Drosophila melanogaster*

The use of Drosophila melanogaster for the study of peanut allergies is not common, although it is effective, and budget friendly. D. melanogaster has been shown useful for human studies due to their similar genome. The objective of this study was to determine if the immune regulated genes within the D. melanogaster genome were affected by the exposure of peanut. For this study, eight hundred female flies were collected and placed into cages, one hundred per cage. The flies were fed cornmeal-molasses food with water or 5% peanut on top, water being the control. Every 72 hours the dead flies were collected, and food was replaced. qRT-PCR was performed on three-day intervals across the lifespan of the flies. These results show a significant down-regulation of Dorsal and an up-regulation of Dif, Cactus, and Relish. This shows the Toll pathway is potentially involved in allergic reaction, as well as the Immune Deficient pathway. This means that D. melanogaster provokes an immune response to peanut and can potentially be used as a model for peanut allergy in the future. The project described was supported by grants from the National Institute for General Medical Science (GM103427 & 1U54GM115458).

Megan TenBensel
Mentor: Jayne Jonas-Bratten

Title: *A comparison of grasshopper herbivory on native and invasive plant species in burned and non-burned waterfowl protection areas*

Periodic fire is essential for developing and maintaining grasslands and prairies. Fire rids the land of detritus and returns nutrients to the soil. These nutrients maximize plant productivity and lead to an overall healthier prairie. Fire helps to limit outbreaks of invasive and non-native plant species that often occupy the land. Post-burned plant growth promotes an increase in native plant species diversity; therefore, making the entire ecological system more diverse. Most grasslands are subjected to ungulate grazers and have had their soil compacted and plants consumed. We chose two study sites that are free of ungulate grazers and focus on invertebrate herbivore feeding patterns on both native and non-native plant species. We focused on vegetation height, chlorophyll, and herbivory patterns between grasses and forbs. Both sites have loamy soil. We sampled three transects at each site that had Kansas and Nebraska type loamy plain ecological areas, and a loamy terrace area. One site has undergone experimental burning, and the other is a non-burned prairie. The burned prairie experienced an overall higher diversity than that of the unburned prairie. The burned site contained a minimum of 15 different plant species, and 5 different grasshopper species. The unburned site only contained a minimum of 11 plant species, and 3 grasshopper species. Herbivory of the different sites was an inverse relationship: the unburned site had a higher abundance of specific plants due to the lower level of diversity it contained, which led to there being less herbivory per plant species present. The burnt site displayed higher levels of herbivory, but on plant species that were less abundant. This grassland hosted a greater level of plant diversity which in return allowed for a larger variety of invertebrate herbivores to feed. Invertebrate feeders consumed both native and invasive plant species and showed a slight preference toward invasive plants.

Samii Ponce-Hernandez
Mentor: Melissa Wuellner
Co-Authors: Kim Carlson, Keith Koupal, Logan Zebro
Title: *Genetics of Walleye in Lake McConaughy, Nebraska*

Lake McConaughy is Nebraska's largest reservoir and has the greatest number of fishing hours spent annually compared to any other waterbody in the state. The most frequently targeted fish species on the lake in Walleye (Sander vitreus). Since 1989, Walleye have been stocked annually into the reservoir to support the recreational fishery. Despite previous research that indicates high contribution of stocking to the

age-0 population of Walleye in this system on an annual basis, some individuals are the result of natural reproduction within the lake. However, no study to date has confirmed the spawning locations for Walleye in this system. The goal of this research is to determine if there are genetic differences between naturally and hatchery produced Walleye in Lake McConaughy. The first step to this goal involved identifying which microsatellites may be used to determine whether such genetic differences exist, as many similar studies across the range of Walleye have used as many as a dozen different options. Anal fin clips were taken from age-0 Walleye collected in August 2022. DNA was extracted from these fin clips and were tested against 9 microsatellites at 8 different annealing temperatures (50 - 63°C) using a gradient PCR, then ran through gel electrophoresis and fluorescent imaging. Preliminary results indicate that at least 4 microsatellites could be used to look for differences in genetic variability between stocked and naturally produced Walleye, with the potential for 2 more microsatellites. Now that these microsatellites have been identified, the next steps will include identifying means for further amplification of the microsatellites chosen and to test whether genetic differences exist in those fish of known origin (hatchery or naturally produced) that have been identified as such using other means (i.e., oxytetracycline marking of otoliths in the hatchery or otolith microchemistry analysis)

English

Coleman Riggins
Mentor: Brad Modlin
Title: *"Do Geese See God?": The Design and Media Within the Literary Journal*

Do Geese See God is an online literary magazine founded by two UNK English majors with the goal to extend the reach of literary circles around the world. It aims to create a publication capable of bringing together a group of writers who've never met and connect them through pieces they have written and submitted for publication. Because of the size of this project, it has been split up into two different sections: the design and the community outreach. This research highlights the design of the project and connects it to ideas of rhetoric in English. By exploring different tools in design and seeing how that design influences consumers, we are able to explore a bit about how design works rhetorically. In order to gauge the effect interactive design has on the audience, we are able to look at Wix.com analytics to see pathing through our website. We are also able to use Twitter analytics to compare posts with images and posts

without to see if there is a notable difference. In the end, we apply reasoning to the creative aspects of this project to better understand how design works to communicate a message and how we get that message out to our audience.

Kenny Mitchell
Mentor: Brad Modlin
Title: *The Creation of a Literary Magazine: A Self-Study of Do Geese See God's Engagement with the Literary Community*

As an online literary magazine begins seeking publication, it must be highly aware of how it's engaging with the writing community. If a magazine's engagement is poor, the magazine won't be able to publish new work. This article discusses a self-study of Do Geese See God, our new literary magazine, which began seeking submissions for its first issue on June 11, 2023. The study implements the Consumer Online Brand Related Activities (COBRAs) model, originally established Muntinga et al. (2011), to examine the engagement rate of Do Geese See God's Twitter account and how the engagement rate affected the submission rate. This study indicated that our magazine had a high engagement rate at the beginning of the submission period that slightly decreased; however, our submission rate increased exponentially throughout our submission period between June 11 and July 16, 2023. We plan to utilize these results to enhance our future engagement rates after we publish our first issue. The results of this study also provide the foundation for additional research studies.

Trinity Angle
Mentor: Janet Graham
Title: *Intersectionality & The Masculine Box in Function: Gender Capital and Masculine Spaces*

In previous papers, my understanding of The Masculine Box has been defined and simplified into the societal pressures that are placed on men. For the sake of brevity, the societal pressures placed on men arise from the existence of Hegemonic Masculinity. At this point in time, the Hegemonic Masculinity that exists is a more toxic

version which men do benefit from, but also, and perhaps less known or accepted, limits and harms men. During this defining process of The Masculine Box, questions naturally arose like: Where can The Masculine Box be observed? How does Masculinity function? And what do these implications have for society? It was this line of thinking which jumpstarted a process into the understanding of masculinity theory and many meaningful aspects of this theory appear in this paper. This paper will dive deeper into specifically how The Masculine Box functions through masculine spaces and gender capital in John Okada's novel No-No Boy (a prominent Asian-American author and inspiration to Viet Thanh Nguyen's novels The Committed and The Sympathizer—all of which are included in previous research for this on-going project). Okada's No-No Boy focuses on the story of a Japanese American man who was sent to prison for not joining America's effort against Japan in WWII. His story is one of redefinition and exploration of what it means to be a man in a society where you do not have respect and have little opportunity. It is impossible to say how an abstract concept like hegemonic masculinity can be solved, however, by making it more tangible though examples in literature, it is possible to highlight the destructive nature of hegemonic masculinity on men and push towards positive change. Through an intersectional analysis of No-No Boy, the understanding of hegemonic masculinity and how it functions in society can be expanded upon while also providing a small crack for the hope of a more positive masculinity to shine through.

History

Logan Osmera
Mentor: April White
Title: *Going Underground: The Frank Museum's Basement Graffiti and the 1970's Counterculture Movement at Kearney State College*

The aim of this poster is to showcase the ongoing research towards the development of a new exhibit at the G.W. Frank Museum of History and Culture regarding the museum's basement graffiti. In the 1970s and up until the 1990s, University of Nebraska at Kearney students, then known as Kearney State College (KSC), would sneak into the tunnels that connected the various buildings on the west side of the campus, which included the basement of the Frank Museum. During this time, the students would mark the basement walls with graffiti, which now serves as a showcase of the campus culture of the time and the effects the broader counterculture movement- the anti-establishment attitudes that permeated American youth and

colleges in the 1960s and 1970s- had on KSC and rural Nebraska in general. Specific examples of this connection in the basement include graffiti of pot leaves, showcasing illicit drug use which was a large part of the counterculture movement, and popular counterculture bands' names, such as Led Zeppelin and Pink Floyd, being graffitied on the walls.

Research on the basement's graffiti and the counterculture movement at KSC has shown that the counterculture movement was an ever-present force at KSC, a regional Nebraska college not traditionally thought of as a place where the counterculture movement had a big impact. As such, the purpose of this poster will be to highlight the role the dynamic counterculture movement played at KSC and the attitudes of the student body at the time using primary sources, mainly the graffiti in the basement, which is preserved historical evidence of how the broader counterculture movement directly affected KSC and rural Nebraska. Other primary sources, such as underground newspapers circulated on campus at the time, yearbooks, interviews with former KSC students, and official college reports, will also be used.

KSS

Hunter Hiatt
Mentor: Shannon Mulhearn
Title: *Music Genres Effect on Exercise*

Physical activity requires motivation. Music has the potential to provide motivation. Music has different styles, or genres, that appeal to different people and can push them to achieve or set you back to slow you down. The existing research about performance effects of music on physical activity are limited to power and strength. Therefore, the current study aimed to investigate music's effect on cardiorespiratory exercise, specifically running one mile. Recruitment was done through local running clubs and resulted in 19 individuals completing the pre-screening questionnaire. During three 1-mile trials, participants were exposed to 3 conditions: (a) their preferred genre,(b) researcher-chosen genre, and (c) no music. Data collected included mile run time, effort (assessed through a GPS unit), and perceptions of effort and each condition's effect on the runner. Preliminary results suggest effort is highest when listening to the researcher-chosen genre. Data collection is ongoing. The results of this study may impact individuals who are training for events, and physical educators and trainers who are looking to motivate participants.

Riley Schmohr
Mentor: Quincy Johnson
Title: *Examining the Differences in Muscular Force and Power Production among NCAA Division II Football Players*

The purpose of this study is to investigate the difference in muscular strength and power amongst NCAA Division II Football athletes, and their correlation with depth on the roster, and their position. A secondary study of this URF enhances my ability to measure athlete's data, and effectively compare it to similar athletes' to cater the best programming for them. Below is the analysis of the collected data.

Data was collected for the countermovement jump (CMJ) and Isometric mid-thigh pull (IMPTP). Using both of these measurements allowed me to measure each athlete in a dynamic movement and isometric movement, allowing me to test both force and power in a short amount of time. According to the findings there was only one significant difference when comparing starters to non-starters. Starters peak force was significantly higher when compared to non-starters. Although the other measurements starters were all higher in mostly, there was only found to be one statistically significantly higher measurement. Based on the findings of this study, an athlete's ability to produce higher peak forces during the IMTP separates starters from non-starters within NCAA Division II football populations.

CMJ and IMTP provided important and insightful data such as jump height, peak braking force, peak propulsive force, peak landing force, momentum, all of which are related to CMJ. For the purpose of this study I focused on jump height, and peak propulsive force. When comparing starters jump height was a mean of 19.8 inches vs 17.9 in non-starters. Peak propulsive forces starters had a mean of 2619.9N compared to 2497.52N in non-starters. With IMTP we focused on both peak force and relative peak force. Starters had a mean of 3638.3N whereas non-starters had a mean of 3354.2N. Relative peak force in starters was 329.8 compared to 324.5 in non-starters.

Findings from this study suggest that starters had a significantly higher peak force when compared to non-starters. Although starters were higher in almost all measurements, peak force was the only mathematically significantly different measurement. Based on the findings of this study, an athlete's ability to produce higher peak forces during the IMTP separates starters from non-starters within NCAA Division II football populations.

Marketing, Agribusiness, & Supply Chain Management

Anh Ho
Mentor: Ngan Chau
Title: *The Influence of Photocards on K-Pop Success and Fandom Culture*

K-Pop, a global cultural phenomenon, has witnessed unprecedented success over the past decade, captivating audiences worldwide. One contributor to this success is K-Pop photocards - tangible collectible items that are often included in albums and merchandise. This research project delves into the intricate relationship between K-Pop photocard collection and fan motives across the K-Pop community, with a focus on two research questions: (1) What are the primary motives driving fans to collect K-Pop photocards? and (2) How do these motives vary across different segments of the K-Pop community?

To answer these questions, an online survey among K-Pop listeners across many countries was conducted, yielding 258 valid responses. Our findings reveal diverse motives, including connection with idols, aesthetic appeal, rare/valuable asset, connection with other K-Pop fans, potentially valuable investment. The results of this study illuminate an emergent and pronounced trend of photocard collection permeating through the K-Pop community, underlining its increasing prevalence and significance. In addition, the empirical findings derived from our research offer a profound insight into the multifaceted nature of collectors' motives. These findings have critical commercial implications for K-Pop agencies, merchandisers, and marketers. More specifically, these stakeholders may consider modifying their marketing tactics to address K-Pop fans' motivations for stronger fan engagement, and brand loyalty.

Music, Theatre, and Dance

Tyler Clay
Mentor: Anne Foradori
Title: *Ghosts and Spirits in Opera*

Opera is a collaboration of all performing arts – music, theatre, and dance. Whether based on works of literature or an original story, the libretto is key to the opera's story telling. Since the beginning of opera in 1600, librettists and composers have been drawn to stories that are dark cautionary tales examining human conflict with nature, other humans, and the supernatural. Whether the protagonist is a hero, demigod, or ordinary person, the moral human struggle plays an important role in the story telling. It is a common dramatic path throughout the opera canon and forms the basis of my proposed study.

The supernatural world in opera includes witches, demons (the Devil), monsters, ghosts, and spirits. To include all the supernatural in a single study would be overwhelming and not do justice to any one phenomenon. After a preliminary search and literature review, I chose to write about ghosts and spirits in opera libretti.

The goal of my project was to investigate the many ways ghosts and spirits have been used in opera. I examined numerous opera libretti, comparing them to original works, when possible, to find their dramatic similarities and function in stories. Ultimately, I considered in detail, the ghosts in three contrasting operas by 20th century composers. Those works are: "The Medium" by Gian Carlo Menotti, "The Turn of the Screw" by Benjamin Britten, and "The Ghosts of Versailles" by John Corigliano.

Physics, Astonomy, and Engineering

Kim Larbey
Mentor: Joel Berrier
Title: *Investigation of the Evolution of Galaxy Properties*

Galaxies evolve in shape, color, and other properties over the history of the Universe. The evolution of galaxies is dependent on galaxy-galaxy interactions, as well as a galaxy's own properties. Recent James Webb Space Telescope observations seem to show galaxies evolving faster than expected. I have examined publicly available galaxy imaging from the Hubble and James Webb Space Telescopes in order to quantify how "overdeveloped" galaxies are. I am making comparisons between these galaxies and simulations to explore possible paths of galaxy evolution.

Psychology

Tiffany Sauls
Mentor: Julie Lanz
Title: *Food Insecurity and Academic Performance*

The purpose of this study was to explore whether a relationship exists between food insecurity and academic performance in first-year undergraduate students. When students lack access to enough food to live a healthy and active lifestyle, they report lower grade point averages (GPA) and are less likely to stay enrolled in school (van Worden et al., 2018). Since the pandemic, food insecurity has risen excessively on college campuses, and across the Midwest, where up to 63.3% of students are food insecure (Cuy Castellanos & Holcomb, 2018). In the present study, we conducted a prospective panel design across two time points at a Midwestern university. After IRB approval, data on demographics and food insecurity were collected during the Fall 2022 and Spring 2023 semesters, and data on academic performance were collected from the Registrar's Office after the semester ended. There were 101 participants over the age of 18, and 41.6% were first-generation students. The average age was 19.5 (SD = 3.2). Most participants were women (66%) AND White (78.2%). The remaining participants were Hispanic or Latino (9.9%), Asian (4%), Black or African American (4%), and Multiracial (4%). High food security was reported in 57.4% of participants; 24.8% of participants reported low food security; 17.8% of participants reported very low food security. This research is valuable if we wish to understand the impact of food insecurity on first-year students' academic success and retention.

Teacher Education

Tracy Roskop and Gabby Grace
Mentor: Martonia Gaskill
Title: *An exploratory survey on the use of ChatGPT in teaching and learning from future teacher's perspectives*

ChatGPT was the first Language Learning Model (LLM) to become available to the large mainstream population, including educators and students, sparking huge debates in education at all levels. Artificial intelligence has become the subject of debate at educational conferences and a topic of investigation by scholars across disciplines and fields. The most advanced AI tools, such as GPT4, can learn from images impacting the use of language learning processing models (LLM) for education purposes. A general concern among educators include potential for academic misconduct, which available tools such as ChatGPT, makes it difficult to detect instances of plagiarism

and other forms of academic cheating. This survey investigates future educators' perspectives, hopes, and concerns about recent AI advancements in the future of education. Survey data was analyzed using SPSS to summarize and visualize demographics and descriptive data. Survey results and implications for both K12 teachers and teacher preparation programs will be discussed.

Elizabeth Cifuentes, Jaime Colon
Mentor: Martonia Gaskill
Title: *Teaching in a Time of Artificial Intelligence: Pre-Service Teachers Perceptions of AI and its impact in K12 Schools*

Recent advancements in Artificial Intelligence developed by OpenAI, such as Chatbots, is now widely accepted in several fields, including education. Students can learn about topics and ideas by using this technology while generating content with it. According to recent studies (García-Peñalvo, 2023; Kasneci et al., 2023), ChatGPT, an extrapolation of a model known as Large Language Model (LLMs), may be used to automate assessments and grading, providing teachers with more time to devote on personalized instruction. This technology can be utilized to customize learning for students, enabling them to focus more intently on the subject matter and critical thinking. Therefore, AI enthusiasts claim that ChatGPT will become a powerful tool for enhancing students' and teachers' experience in the educational process. This qualitative research study focusses on exploring pre-service teachers' perceptions of the impact of AI in educational practices. An interview protocol was developed to gain deep insights into how future teachers perceive both the challenges and opportunities in their future classrooms as the result of the fast development and integration of artificial intelligence as teaching and learning tools in K12 schools. The results of the interviews and the implications for educators will be discussed in detail.

Graduate Abstract

Communication

Jamila Bajelan
Mentor: Mary Harner
Title: *Cool Critters: An Informal Science Learning Experience to Increase Youths Interest, Enjoyment, and Opinion of Nebraska's Native Animals*

There are numerous methods to successfully communicate science, and many studies have shown that place-based learning and outdoor education benefit participants, especially school-aged children. Summer camps are a great setting to practice science communication while simultaneously decreasing the loss of math and reading skills in youth over the summer break. For this study, I sought to build on this foundation and develop a summer youth program to communicate science about animals that are native to Nebraska through a summer camp called Cool Critters. Cool Critters, a weeklong summer camp for elementary-aged participants, encompassed place-based education, outdoor learning, and campus connections to increase participants' awareness, enjoyment, interest, opinion, and understanding of Nebraska animals. Pre- and post-surveys of participants and post-surveys of their parent/guardians helped to determine the success of the camp in terms of effective science communication. The ultimate goal of this project was to have the participants think back on their time in the Cool Critters camp if asked what their most memorable science learning experience was from their youth. Herein, I report on preliminary results and some of the highlights from Cool Critters, including how this project enabled me to combine biology and the public communication of science.