Factors Impacting Therapists Use of the Remotivation Process in Nursing Home Settings for Residents Living With Dementia

Our research study aims to contribute to the field of occupational therapy by better understanding how occupational therapists and occupational therapy assistants learn to use a theory-based assessment and intervention in their clinical practice for residents living with dementia who are experiencing motivational challenges. Many individuals with dementia and Alzheimer's disease and related disorders (ADRD) experience a decrease in initiation and participation in their valued occupations. Because of this, occupational therapy practitioners play a unique role within skilled nursing facilities in supporting engagement for residents who have Alzheimer’s disease and related disorders. With the ever-changing healthcare system, therapists are required to maintain clinical competency through the completion of continuing education courses. This mixed method study examined two participants’ response to, and experience of, a dementia specific training to learn and integrate theory-based assessment and intervention for this population into their clinical practice.

Perspectives on Islam

This presentation explores four students' perspectives on Islam gleaned from personal research. The panel explores the nature of Islam, the militancy carried out in its name, and the possibilities for reform.
Katherine Richter  
Mentor: Kejing Liu

**Today a reader, tomorrow a leader.**

During my Action Research project my main focus was to find out where the problem is with children's reading fluency and what types of strategies are effective in improving this problem. Is it that they are struggling with the actual reading of the words? Or is it the fact that their confidence in their reading level is low and they are too afraid to read and make mistakes? My goal was to find this underlying issue and improve the students’ reading levels. I used different strategies that catered to each student's needs depending on how my specific students learn; whether they be a hands on learner or a visual learner. Today the students are reading; tomorrow they could be leading.

Courtney Crabtree  
Mentor: Kejing Liu

**Action Research: Word Sorts and Phonics**

Students need to learn spelling in a more valuable way than memorizing the word list on Mondays. Students should learn how to spell in a way that lets them explore the English language while simultaneously improving their vocabulary and phonics. Using word studies will help the students to better understand spelling and reading. The purpose of this study was to see if the children can engage in word study through small group and differentiated instruction while also progressing in phonics and vocabulary. This study was conducted on three second grade students who are struggling learners in reading and spelling. Throughout this research study, students worked on word sorts to gain a better understanding of the words they read and write. Results from the pre-test and post-test will be evaluated.

Aubrie Hamer  
Mentor: Kejing Liu

**Phonemic Awareness and How it Affects Students’ Literacy Development**

The purpose of this study was to improve students’ literacy and word development by phonemic awareness strategies and letter recognition. This was assessed using the DIBLS progress monitoring. I gave them a pre-assessment based on letter recognition, rhyming, decoding, and letter sounds and this was been administered individually. My primary focus was on 5 students who struggle with the concepts of letter sounds and word formation. During center time and whole group activities, I administered games, worksheets, and used formative assessments throughout this process.
Hayle Blair  
Mentor: Kejing Liu  

The Effects of Word Study Phonics Instruction  
The purpose of this study was to investigate the effects of phonics instruction, through word study and embedded phonics, on a group of four high achieving students in a 2nd grade classroom. Through this study, the influence of word study, as described by Donald R. Bear, Shane Templeton, and Francine Johnston, in their book *Words Their Way*, was investigated. Also the effects of embedded phonics through literature were compared to synthetic phonics instruction. These were explored through assessments on students’ performances, starting with a pre-test of a spelling inventory and ending in a post test of the same spelling inventory. Also students’ performances were assessed week to week through the results of activities related to word study and/or embedded phonics.

Amanda Adams  
Mentor: Kejing Liu  

The Importance of Vocabulary Instruction in the Elementary Math Classroom  
Introducing students to math vocabulary is necessary in fulfilling students’ needs in mathematics and facilitates a deeper understanding of mathematical concepts. The areas of focus in this project included a variety of methods to teach math vocabulary, along with some misconceptions that teachers may have and some issues students may struggle with in relation to math vocabulary. The purpose of this action research study was to assist students who are struggling with concepts in relation to Math, more specifically addition and subtraction, in first grade. This project was conducted with a small group of six students, who were struggling with Math. The students in the study group struggled to understand different math vocabulary terms that are associated with the objectives that are being taught, for example: addition, subtraction, add, subtract, equal, add-to, take-away, minus, sum, addend, and difference.

Mallory Phipps  
Mentor: Kejing Liu  

Improving Fluency to Improve Comprehension  
Researchers have examined the correlation between reading fluency and reading comprehension among younger children. Research findings show that, through guided reading intervention, struggling readers can improve their reading accuracy and fluency to improve reading comprehension. This study was to determine what strategies will be more effective improving a child’s ability to read fluently and accurately, and how this ability will help increase the child’s reading...
comprehension. If a child can read fluently, with appropriate emotion and word accuracy, the child will be more likely to comprehend, remember, and apply the skills in reading, instead of solely focusing on letter sounds and saying words. While gathering my own research, I utilized studied techniques such as Reader’s Theater and Repeated Readings, to improve reading fluency. I analyzed the students’ reading test scores for improvement in reading comprehension.

Bethany Misner
Mentor: Kejing Liu

**Building Fluency Among First Graders**

I individually observed 5 first graders who are struggling readers. The students spent more time sounding out phonemes and decoding each word which ultimately takes away from their ability to become fluent readers. Therefore, I decided to work specifically on fluency with these first graders to help them become better readers. I focused on each student increasing their fluency skills to support comprehension and automatic vocabulary knowledge. I used a variety of strategies to attain as much fluency as possible, such as: repeated readings, paired readings, assisted readings and guided practice methods. Overall, my goal was to double each student’s fluency ability. I wanted to find out what method students responded to the best, the amount of instructional time it takes for children to recognize an unfamiliar word, and how strong the correlation of fluency and comprehension is linked together.

Holly Eichenlaub
Mentor: Kejing Liu

**Increasing Letter-Name Recognition in Kindergarten**

The purpose of this study was to examine a variety of instructional practices used with a group of kindergarten students in order to determine which practices are most beneficial for increasing students’ letter-name recognition. In this presentation, I will discuss the practices used with students to increase their letter name awareness, the methodology, as well as the results of each practice. The goal of the study was to increase students’ letter-name recognition to benefit their overall literacy.

Cally Jones
Mentor: Kejing Liu

**Improving Handwriting Skills in Kindergarten Students**

The purpose of this research was to focus on improving students’ handwriting skills. The principal researcher used multiple strategies with students who are struggling with common skills and
knowledge, such as letter formation, transposed letters, spacing between letters, legible handwriting, and placement of words on the page. Activities used were placing stickers in between words to help with spacing issues and using multi-sensory strategies such as shaving cream or sand writing to work on letter formation. These activities were administered in the experiment period to see how their handwriting skills improved. A pre and posttest was administered to track students’ progress.

**Wednesday, April 1, 2015**
*1:00-1:50*

**2A KRI 153**
Moderator: Shannon Lawson

**Rayanna Easterling**
Mentor: Virginia Pinson

**Avoiding Discrimination Following Short-Term Military Deployment**
How can employers avoid discrimination against employees when they are preparing for or returning from deployment with the military? This presentation will review and summarize regulations that cover affected employees. Human Resource Department responsibilities are discussed as pertaining to the employee as well as the company. Post Traumatic Stress Disorder (PTSD) has become an increasingly diagnosed disorder for many returning military personnel and this must also be addressed when employees return from serving their country. Finally, suggestions about how to be pro-active when it comes to employees serving in the military will be presented to help ease transitions as they occur.

**Kimberly Wyant**
Mentor: Shannon Lawson

**Game On! The Benefits of Simulation-Based Learning In the Primary School Classroom**
As technology continues to advance, there is an increasing need for the integration of 21st century technology, skills, and tools into the educational classroom. One tool that can aid in the development of such skills is Simulation-Based Learning. Simulation-based learning can be found in a digital format, such as the use of video games in the classroom, or a real-time format that involves students actively engaging in a “real-life”, or authentic simulation, which can also be based on digital simulation. Some primary benefits of simulation-based learning include the strengthening of literacy skills, increase in motivation, as well as engagement in the classroom. Such a tool can be adapted to any grade level as long as its educational design and content aligns with the curriculum content of the classroom. By breaking down barriers like standardized testing, students will be able to successfully climb the ladder of knowledge into contemporary society.
Anna Stevens
Mentor: Shannon Lawson

Spread the Word to End the Word
This presentation will introduce the Spread the Word to End the Word campaign coordinated by the Special Olympics. Attention will be spent persuading the audience the word "retard" is derogatory and its use is detrimental to societal treatment of individuals who are intellectually or developmentally delayed. Using first hand experience as a personal advocate for IDD individuals, I will explain how changing attitudes will change lives, opinions, and perceptions.

Mark Newman
Mentor: Sherri Powell

Should the United States Keep or Abolish the Electoral College?
The Electoral College is a complicated election system created by the founding fathers of the United States over 200 years ago to ensure the correct candidate became President. Is this system still needed today when the United States is a much different country than it was in the late 1700s? What flaws that would present the possibility of failure exist, and what alternatives are there to the Electoral College? Which system should be used to elect the leader of the American people, while also ensuring that each person's vote counts equally, regardless of location? These answers will be given and explained, and we will attempt to determine which system provides the fairest way for the American people to determine their leader.

Tonya Maynard
Mentor: Scott Douthat

The Perceived Deviance of 21st century Western Neo-Pagans
In my paper and presentation I will delineate the defamation of Western Pagan culture throughout history which, by primary labeling theory, accounts for the current social exclusion and ostracism of otherwise non-deviant persons based solely upon their self-identification of adhering to Neo-Pagan cultural norms (religious practice, clothing, body modification, personal philosophy, etc.).
Rikki Cornett & Dane Palla  
Mentor: Neil Carpathios

**Breeding Brainchildren: Inventively Ascending the Ivory-Tower of Academic Composition**

Two students embark on a journey to uncover the processes, inspirations, and difficulties of creative and academic writing, how the two inform one another, and how they, periodically, stand in opposition.

Sonja Porter & Alexandra Bennington  
Mentor: Derek Jones

**The Nature of Electronic Coupling between Corannulene and Gold through Alkanethiolate Monolayers**

Corannulene is a chemical compound composed of twenty carbon and ten hydrogen atoms. This structure represents one third of a buckminsterfullerene, which is made up of sixty carbon atoms and resembles the shape of a soccer ball. Fullerenes are studied for their unique chemical capabilities. However, these molecules are extremely hard to work with. Corannulene has similar chemical properties to that of fullerene. Our long term goal is to synthesize and use corannulene-based compounds to preform cyclic voltammetry to measure electron-transfer rate constants of self-assembled mixed monolayers on gold electrodes. Research has been extensively performed on ferrocene-based alkanethiols and we look to compare the corannulene-based derivatives. This nanometer-scale electronic material technology (and understanding of charge transport through organic films) can be used in sensors and other areas of importance.

Nina Trankina & Krystin Weber  
Mentor: Derek Jones

**Porphyrrins and Dye-Sensitized Solar Cells**

Since the discovery that irradiated organic dyes can generate electricity at oxide electrodes in electrochemical cells, the generation of electric power has gradually become more popular. A relatively new kind of low-cost solar cell is known as Dye Sensitized Solar Cells (DSSCs) which can produce electric power. These solar cells use chemical dyes to produce a photovoltaic effect to power things such as electronic devices. DSSCs are growing popular because of their attractive features such as their flexibility and transparency as well as the simple production with low costing material. A wide
A variety of chemical dyes can be used for each DSSC and can vary its efficiency greatly. Our research consists of synthesizing porphyrin dyes, incorporating them into DSSCs, and then testing their efficiency.

Steven Taulbee  
Mentor: Timothy Hamilton

Analyzing the Center of Mass of a Leaping Athlete

The purpose of this project was to analyze an athlete's center of mass while performing various jumps. This was done by using the motion capture lab to record the position of each major portion of the body throughout the jumps, then analyzing their positions along the x, y, and z-axes at any point in time. The project required application of kinesiology and physics and displays well that an athlete's center of mass follows a simple application of Newton's laws of motion, regardless of where each individual body part was located at any point in the jump.

Wednesday, April 1, 2015
2:00-2:50
3A MAS 203
Moderator: Sarah Minter

Jessica Fair  
Mentor: Sarah Minter

Baseline Natural History of Lepidoptera - Plant Interactions and Diversity in the Barra Del Colorado Wildlife Refuge, Tortuguero, Costa Rica

Plant-insect interactions serve as critical components of ecological functions in many natural systems. Lepidoptera (butterflies and moths) are one group of insects which interact with flowering plants both as floral visitors and potential pollinators as adults, and as larval herbivores. Interactions between these Lepidopteran life stages and flowering plants were observed at the Cano Palma Biological Research Station adjacent to the Barra Del Colorado Wildlife Refuge near Tortuguero, Costa Rica. Species were documented using cameras and structured observation in May 2014. Observations were incorporated into a database and shared with station staff and researchers. The biodiversity of Lepidoptera within microhabitats and the relationship of observed species to surrounding flowering plants was investigated.
Non-Invasive Documentation of Large Mammal Activity

A survey of mammalian species was conducted at Cano Palma Biological Field Station in Costa Rica during May of 2014. The focus of our survey was to observe and record mammal species found in the lowland tropical rain forests near the Barra Del Colorado Wildlife Refuge. Our study utilized camera trapping and plaster casting methods to identify different species. Four Moultrie M-880 Digital Game Cameras with 8.0 MP capability were installed along an experimental transect. Cameras were set on May 7th and remained set through May 16th, 2014. Camera photos yielded positive results for mammalian life, specifically capturing three distinct species. Castings of mammalian prints, representing six species, were collected while walking along pre-established research transects during visual scouting.

Christa Little & Lindsey Polsley
Mentor: Sarah Minter

Herpetological Diversity of Costa Rica

In May of 2014, a small group of students from Shawnee State University had the privilege of traveling to Costa Rica. Students stayed at the Caño Palma Biological Research Station located in the Barra del Colorado wildlife refuge. The station aims to encourage rainforest conservation, teach a conservative use of resources, and serve as a facility for international researchers. During the ten day stay at Caño Palma, students participated in herpetological surveys. Within the lowland tropical rain forest, surveys focused largely on the snake, caiman, and amphibian populations of the region. Marine turtles that came ashore for egg laying were also monitored and tagged. This presentation will introduce viewers to the techniques used to survey reptile and amphibian populations in the rain forest. Photographs of organisms observed by Shawnee State students will demonstrate the herpetological diversity of the region.

3B KRI 150
Moderator: Beverly Ochieng-Sande

Ashley Gilley, Mariah Mynes, & Lynn Gundolf
Mentor: Beverly Ochieng-Sande

Accommodations and Modifications: What all teachers need to know

Intervention specials and general education teachers provide students with accommodations and modifications to ensure academic success of all students. For students with developmental disabilities, accommodations and modifications allow the curriculum to be accessible at their ability level. Although accommodations and modifications both serve similar purposes, they differ in one way. Accommodations change how students with developmental disabilities learn the same material as their typically developing peers; while, modifications change what students with developmental
disabilities learn, or their expectations. The purpose of this presentation is to explain the difference, using concrete examples, so that educators can be able to more effectively meet the needs of their students with disabilities.

3C   KRI 153
Moderator: Adair Lattimer

Megan Toppins, Shae Hart, Terry Titus, Amber Roffe, Kalyn Bailey, & Stacia Akers
Mentor: Adair Lattimer

Health Literacy
Health literacy will be defined and explored through different populations. Each group member will discuss barriers and interventions for their specific population.

3D   KRI 253
Moderator: Catherine Bailey

Kayla Dye
Mentor: Kejing Liu

Can Children Learn Dolch Words Through Play?
Students need to be able to master the words on the Dolch word lists in order to become fluent readers. Learning through play will help the students to better retain the words they learn. The purpose of this study was to see if children can learn the words from the Dolch word lists through play. This study was conducted on four second grade students who are struggling with the pre-primer, primer, first, and second grade Dolch word lists. Throughout this research study, children played various games and activities. The post-test results help to determine if children can actually learn through play.

Brooklyn Thompson
Mentor: Kejing Liu

Making Connections between Objects and Number Symbols in Kindergarten
This study worked with younger children who are struggling with understanding the relationship between objects and number symbols. Multiple strategies and activities were developed and implemented. A pre and post-test assessment was administered to explore which instructional techniques and activities will be more effective on such children.
Laynee Davis  
Mentor: Kejing Liu  

All Aboard The Letter ID Train  
The purpose of this study was to work with students who are struggling with identifying letters. Students were addressed based on the knowledge that they have with letters, and learned by doing various activities. The classroom teacher does a letter of the week, and during my small group time we reinforced the letter of the week. In order to help the students identify the letters, weekly activities, along with a song or chant to help them remember the letters were planned. An assessment was given to find out which letters the students already know and which letters the students are struggling with. Students were assessed by giving them a pretest to see what they know and then a posttest to see what they have learned.

3E  
KRI 154  
Moderator: Alan Gravano  

Justin Cochran & Adam Schroeder  
Mentor: Gay Lynn Shipley  

All about that Math, All about that Math, No Calculators!  
We will be discussing different math fluency strategies and mental math tricks to help students develop their working memory and become faster at basic math.

Wednesday, April 1, 2015  
3:00-3:50  

4A  
ATC 207  
Moderator: John Whitaker  

Megan Smith  
Mentor: John Whitaker  

The Chance That A Random Graph Is Connected  
In this presentation, we define a random graph, a connected graph, and give a formula for the probability that a graph with n-nodes is connected. The majority of the presentation will be spent illustrating that the formula holds true for a graph with 3-nodes.
Kathleen Ross  
Mentor: Kejing Liu

**Story Problems, Story Answers: Investigating a Multi-Modal, Narrative Approach to Teaching Multiplication Facts**

Think fast! What’s 9 x 12? The ability to quickly recall math facts is essential for academic success, allowing the brain to focus on the more complicated processes of comprehension and calculation. Unfortunately, American students are below average in their ability to quickly recall basic math facts. This presentation reports the results of a graduate capstone research project designed to test the efficacy of teaching multiplication facts using a multi-modal, narrative approach. Eighty-six third grade students received traditional instruction in multiplication facts. Thirty-eight of them were also told imaginative stories and rhymes with illustrations for an average of five minutes per day for three weeks. A comparison of the pretest and posttest scores shows that the students who participated in the multi-modal instruction recalled significantly more facts than the other students. The findings of this project suggest that teachers can quickly boost student recall by employing this engaging instructional approach.

4B KRI 250  
Moderator: Brenda Haas

**Rachael McGraw**  
Mentor: Kejing Liu

**Action Research Study**

For the Action Research class, the study done involved kindergarten students who are struggling in mathematics. The students in the small group are struggling with number identification 10-20, adding, and subtracting. The goal of this study was to help these struggling students get on track with the level they are supposed to be on and find what techniques work. To determine if the research is successful, using the method of a pre-test and post-test is a good way to identify progress. The pretest was asking them to identify the numbers, and complete a few addition problems. The post test was similar so that I could measure the results of my actions during this process. Some techniques that were used includes a number line, an “adding machine”, and many more. With the ideas used so far, there has been some improvement and I look forward to seeing more!

**Breelyn Wells**  
Mentor: Kejing Liu

**Effective Strategies for Teaching Phonological Awareness**

Phonological awareness is the skill of identifying sounds that make up spoken words. It is taught during the preschool age and later influences the student’s reading development. These skills are essential for the development of emergent literacy. To increase a student’s phonological awareness, direct instruction and activity-based strategies can be used. The purpose of this study was to help
prepare preschoolers for kindergarten by examining the effectiveness of instructional strategies on phonological awareness. The students worked individually and as a group specifically on identifying capital and lower case letters, along with the sounds they produce. Before individualizing the plan for the students, there was a pretest that consists of matching the lower case letters with the capital letters. To follow this test, the students were assessed on the sounds the letters produce. The study concluded with a post-test to see the improvement of the students.

Ashley Galbraith
Mentor: Kejing Liu

Action Research Early Childhood Phonemic Awareness

This research is to work with kindergarten children who struggle with letter recognition and sounds. The principal researcher’s goal is to use developmentally appropriate strategies to work with those children and enable them to be able to develop and master phonemic awareness skills by the end of the study. In addition, the researcher will try different strategies to work with their attention focus as it is another problem that they have in learning, which impact their learning outcomes. The pre- and post-test will be conducted to examine the effectiveness of the instructional strategies being applied.

Tiffany Walters
Mentor: Sean Dunne

The Blurred Lines of Gender at Anime Conventions

This presentation will explore the construction and performance of gender at Anime Conventions within the United States, and how these performances are perceived outside of the conventions in the Appalachian region. Attending these conventions provides opportunities to interact with people of different races, genders, sexual orientation, and age; demonstrating how customary definitions of gender in Appalachian regions are challenged at Anime Conventions. Using primary research and firsthand experiences, I will explain how, as an Appalachian attending one of these conferences; I have had to defend my sexuality, my clothing selections, my hair style choices, as well as my desire for these interactions. I will attempt to illustrate how socially constructed divisions within gender are blurred at conventions, and will discuss the reactions I have encountered from my family/friends in regards to my attendance to these conventions.
**Tashana Brown**  
Mentor: Ann Linden

**Bibliotherapeutic approaches**
Incorporating a bibliotherapeutic approach through the use of literature in early childhood education has the ability to transform a child’s life by getting them to open up about their personal experiences. Bibliotherapy can assist in addressing issues such as social disconnect, abuse, death, and many other topics to which children have a difficult time adapting.

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**Jordan Dever & Alison Hammonds**  
Mentor: Kimberly Inman

**Expression of Foxc1 in the chicken embryo**
During embryonic development, specialized neural crest cells (NCCs) migrate throughout the vertebrate embryo into specific regions including the pharyngeal arches. NCCs give rise to most cartilage, bone, and connective tissue of the head and face. In order for proper formation of jaw structures or auditory bones in mammals, the Foxc1 gene must be fully functional. The structure of mammalian jaws differs from other jawed vertebrates (gnathostomes), and so it is uncertain if Foxc1 plays the same role in other species. From our research, we hope to determine whether Foxc1 plays a role in the development of the jaw in chicken embryos, a nonmammalian gnathostome. We will use a variety of molecular techniques including gene isolation, polymerase chain reaction, and in situ hybridization. Ultimately, these methods will allow us to visualize Foxc1 gene expression throughout the embryo as a step toward determining if Foxc1 is a requirement for normal jaw development.

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**Elijah Kelley**  
Mentor: Eugene Burns

**Inactivating Genes in Whooping Cough**
Over the past few years, there has been a resurgence in the number of cases of whooping cough, which is caused by the Gram negative bacterium Bordetella pertussis. Whooping cough is characterized by severe coughing spells followed by high pitched “whooping” sounds as patients struggle to catch their breath. In order to cause disease, the bacteria have to attach to ciliated cells in the trachea of the patients. Previous research done on Bordetella bronchiseptica, which causes a similar disease in swine and canines, showed that inactivation of the Bb2359 gene affected attachment. Experiments were undertaken to inactivate the homologous gene, Bp2596, in B. pertussis. Future experimentation will show if inactivation of this gene in the human pathogen has the same effect on attachment that was seen with the animal pathogen.
**Adam Otworth**  
Mentor: Eugene Burns

**Complementation of Bb2359 Mutation in Bordetella bronchiseptica**

Bordetella bronchiseptica causes kennel cough in dogs, atrophic rhinitis in pigs, and respiratory disease in many other mammals. Previous experiments inserted a transposon into the Bb2359 gene of the VPI-Fe1 strain of the bacteria. This caused the bacteria to exhibit an altered attachment to pig and dog cells. This new, mutant strain, called 1K1, attaches in clumps. To verify that this change in attachment is due to inactivation of the Bb2359 gene, a functional version of the gene was re-inserted into the bacteria, complementing the mutation. Complementation used an E. coli plasmid which contains the cloned Bb2359 gene from B. bronchiseptica. Insertion of this plasmid into Bordetella allowed homologous recombination, crossing over, to occur. At this point, the mutated gene was no longer present and the wild-type gene should express the wild-type phenotype of the VPI-Fe1 strain, returning it to its normal attachment style.

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**John Wiseman**  
Mentor: Dan Johnson

**The Justice of Hell**

Exploring the complex relationship between a loving God and an eternal hell.

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**Chuck Norris**  
Mentor: Dan Johnson

**Scientific Naturalism and Spiritualism**

Scientific Naturalists may tend to be more on the Atheistic side of the religious spectrum but can they be spiritual? In this essay I argue that a Scientific Naturalist can in fact be spiritual and maintain an atheistic religious belief, Buddhism, without any inconsistencies in her world-view. First I outline what a Naturalist is and what one may be committed to believing and how Buddhism might be seen to be in conflict with those beliefs; then I'll show that these are non-fatal issues for the Naturalist; and finally I'll examine the two different versions of Buddhism in the context of the Naturalist's life to show that they can actually be of benefit to her.
**Kaitlyn Anderson**  
Mentor: Dan Johnson

**Prostitution or Abortion? Or Both?**

I wrote this paper for my final in PHIL 1105, and it is an argument against abortion in a round about way, or at least a way to get people to think about it in a new light. My argument revolves around the relatability of prostitution and abortion, which are two topics that are often not related. It's a very strong argument that is set up to make the audience reevaluate the way they look at abortion.

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**Thursday, April 2, 2015**  
9:00-9:50

**5A KRI 150**  
Moderator: Dan Chaffin

**Lance Rose, Sabrina Brown, & Molly Dargavell**  
Mentor: Sarah Minter

**Culturally Significant Medicinal Plants of Costa Rica**

In May of 2014, fourteen students and two professors from Shawnee State University traveled abroad to study biology within the northeastern region of Costa Rica. The Shawnee State students and professors resided at the Caño Palma Biological Station located in the Barra del Colorado Wildlife Refuge. Caño Palma encourages the participation of undergraduate scientific research in order to further worldwide awareness of the need for rainforest conservation. During their time at the station, a few of the students participated in research on culturally significant medicinal plants within the Barra del Colorado Wildlife Refuge of Costa Rica. On a journey through the rain forest, led by a local farmer named Don Ciles, the students studied naturally growing plants that carry medicinal significance. Don Ciles located the plants within the forest and then described to the students the medical significance of the plants for the natives of Costa Rica.

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**Kaytlyn Lewis, Kaylee Wright, & Maria Frazier**  
Mentor: Sarah Minter

**Marine Turtle Conservation in Costa Rica**

In May 2014, a group of Shawnee State students studied abroad at the Caño Palma Biological Research Station near Tortuguero, Costa Rica. One of the primary focuses of the research facility is a long term program aimed at protecting marine turtles. Students completed training exercises before participating in night patrols. During each night patrol, participants walked as many as nine miles, stopping only when egg laying turtles were observed. Each turtle coming to shore was measured, tagged, and identified. Eggs were counted during deposition and then promptly buried by the turtle. Nesting sites were triangulated and disguised to deter poaching. Morning patrols were conducted to confirm nesting locations and check for hatching offspring. Nests older than the expected incubation
period were excavated to determine hatch rate and causes of premature deaths. This presentation will describe the processes associated with turtle conservation, as they are employed by researchers in Central America.

Alexander Alley  
Mentor: Sarah Minter

Shorebirds and Mist Netting Surveys in Costa Rica

Eleven Shawnee State students traveled to the Cano Palma Biological Research Station in Costa Rica in May of 2014. Cano Palma, a research station associated with the Toronto Zoo in Canada, is used by researchers to study the flora and fauna of the lowland tropical rain forests of Central America. To date, more than 800 birds are native to or use Costa Rica as a migrational resting ground. Researchers from around the world monitor birds at Cano Palma using mist netting and shorebird counts. Knowledge gained from research at Cano Palma has led to a better understanding of the species richness and migrational patterns used by birds. During my time at Cano Palma I assisted researchers with both survey techniques and helped to measure and band birds. My presentation will describe both processes, knowledge gained to date, and birds observed during my stay.

Brady Evans  
Mentor: Erik Larson

Refrinement of Cave Volume Calculations in Compass

Statistics for caves, particularly the volume, has proven problematic either due to inadequate technology or the cost of new technology. Compass®, a free software, has been widely used in recent years and it allows for the calculation of cave statistics including volume; however, the volume calculated is inaccurate. This was originally addressed by creating idealized passages of fixed lengths and diameters to create correction factors for the software. However, it was found that diameter does affect volume calculation, although length does not appear to affect volume. Therefore, we created idealized passages of fixed lengths and varying diameters to create improved correction factors that can be applied to preexisting cave survey data to allow for further refinement and calculation of actual cave volume than was possible before.

Monica Broyles  
Mentor: Kurt Shoemaker

A New Look on an Ancient Lake

A new look on an ancient lake in a 3D form.
Justin Thompson
Mentor: Kurt Shoemaker

**Drainage History of Western Scioto County**

Modern day western Scioto County's drainage into the Scioto River is analyzed to determine the order of each streams introduction into the system. The streams’ gradients and sinuosity will create a step by step view of the drainage system's evolution over time. The model created will be able to differentiate what geomorphic features can be attributed to modern day drainage, to those of Pleistocene Lake Tight, Eastern Teay, and Deep Stage Pliocene drainage systems.

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Braylon Boling
Mentor: John Whitaker

**Introduction to Differential Equations**

In this presentation, we define an initial value problem, state an existence and uniqueness theorem, and show several examples.

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Amanda Miller
Mentor: Keijing Liu

**Teaching Place Value in Education**

The purpose of this study was to improve students’ understanding of place value, specifically when adding and subtracting in tens, also known as “10 more and 10 less.” This has been pre-assessed three ways with a small group of students. The first being a worksheet with eight students identified by the cooperating teacher, the second pre-assessment was given to six students based on the scores of the first pre-assessment as well as their scores on various tests given in the school. Lastly, students were assessed individually to help eliminate distractions and to have a more depth understanding of students’ thinking. Students reviewed place value through the use of manipulatives and calculators, and even games. After several lessons, students were given post-tests to determine if the techniques used helped the students better understand place value and 10 more, 10 less.
Mark Teeters  
Mentor: John Whitaker

**The Foundation of the Exponential Function**

This presentation is an expository talk that proves the existence of the exponential function with base "e." The existence proof will emphasize the two defining characteristics of the exponential function. The proof will involve continuity, the fundamental theorem of calculus, induction, and uniform convergence of a sequence of functions.

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Thomas Edwards  
Mentor: Timothy Hamilton

**Measuring the Properties of Exoplanets with a Small Camera**

Exoplanets are planets around other stars. Recently discovered in the 1990s, we now know of 2,700. They had been tough to find, but today the Transit Method has made them easy to detect. The Transit Method looks for an eclipse of the star by its planet. As part of project PANOPTES, Shawnee State is looking for transiting exoplanets with a Canon EOS Rebel camera. I present the results of the measurements of planets' sizes and orbital periods.

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Cody Quillen  
Mentor: Timothy Hamilton

**Exoplanets: What are they and how can we find them?**

An exoplanet is a planet around a distant star, and until about twenty years ago, they were unknown to us. In the past we have used very expensive and very powerful equipment to look for these exoplanets, and this is the reason that the search has been slow. Today, we have found over 2,700 exoplanets in the search for a world that could harbor life, and the boom in discoveries has largely come from a new technique that can be adapted to amateur equipment. In my research, I used a light-weight camera and tripod, along with some specialty equipment, making it accessible for more people to try for themselves. In this presentation, I will talk about the technique to detect these planets and how this is something anyone with a clear night sky can now try!
Anna Brown & Ashley Griffith  
Mentor: Sarah Minter  

Mammals of Costa Rica  
In May 2014, fourteen Shawnee State students traveled to the Barra del Colorado Wildlife Refuge and stayed at the Caño Palma Biological Research Station in Costa Rica. The mission of the field station is to increase awareness for rainforest conservation. As part of this goal, Caño Palma staff encourage undergraduate students to participate in research that seeks to determine the richness and abundance of biota native to the region. During a ten day stay at the station, students participated in surveys investigating mammalian presence. Surveying involved locating the tracks and foraging marks of opossums, peccaries, monkeys, bats, and jaguars. We participated by keeping records for lead investigators during walking surveys and track identification. Specific mammals observed during the course included capuchins (Cebidae), jaguars (Felidae), tent bats (Phyllostomidae), spider monkeys and howler monkeys (Atelidae) and opossums (Didelphimorphia).  

5E  
KRI 154  
Moderator: Lavanya Vemsani  

Molly Arey  
Mentor: Amr Al-Azm  

Neanderthal Speech and Implications  
With more and more research coming in stating that we share more genetic material with Neanderthals that we originally thought, it becomes a question of how similar they were to humans. It is possible that Homo neanderthalensis may have had the ability to produce vocalized language. The capacity for speech is one that would have opened up many doors and greatly influenced the survivability of the species. My research explores the possibility of speech, and if possible, how it may have affected the continuation of the Neanderthal species.  

Kayla Radak  
Mentor: Amr Al-Azm  

Aztec Subsistence Farming  
A focus on how the Aztec people provided food to support a large empire with emphasis on the use of chinampas.
**James Webb**  
Mentor: Amr Al-Azm

**Wild Man: A Serious Past on a Serious Earth**

Is it possible that early hominids interbred? To my surprise and many the answer is very likely yes. The more puzzling question though, is it possible that *Homo sapiens sapiens* is a hybrid animal? That is what I sought to find out.

**Thursday, April 2, 2015**  
10:00-10:50  
6A KRI 150  
Moderator: Janice Johnson

**Anthony Cappel**  
Mentor: Amr Al-Azm

**Qatar Fellowship 2014**

My presentation will be about my study trip to Qatar for research on the local economy. I will present my in-country research on Qatar's economy and how it is going from an oil-based economy to a learning-based economy. I will also present important factors of the US-Qatar relationship and why it is important to the future success of the United States.

**Farhad Baloch**  
Mentor: Brian Richards

**Collegiate Gaming**

A discussion on the validity of competitive gaming as a sport and the introduction of collegiate gaming.

**Thomas George**  
Mentor: Dan Johnson

**Violent Sports & the Doctrine of Double Effect**

An exploration of the moral permissibility of violent sports and an attempt to reconcile the necessary intention of harm that comes with these sports with the Doctrine of Double Effect.
Dafe Jessa, Saad Yamikha, Rachel Staker, & Claudia Ndenge  
Mentor: Thomas Carter  

**Evaluation of Adherence to Antibiotic Guidelines after Incision and Drainage of Abscess**  
This presentation is about working with Emergency Medicine residents on a research project to determine if protocol is followed when it comes to administering antibiotics for abscesses.

Kayla Drummond  
Mentor: Beverly Ochieng-Sande  

**Allergies in the Schools**  
Court case rulings have created awareness and spearheaded campaigns to have certain allergies considered as debilitating, hence a need to have them covered under American Disabilities Act (ADA). Severe allergies and Celiac Disease now falls under ADA as a disability. This means public institutions must ensure that individuals with severe allergies and/or Celiac Disease have full access to and equal enjoyment of all facilities, program, goods and services. This is important information for those who work in colleges and schools. In this presentation I will describe how ADA applies to those with food allergies, and how teachers can accommodate a student with food allergies. I will also discuss the different types of allergies and why it is important for teachers to abide by the ADA regulations concerning allergies.

Stacia Akers  
Mentor: Xiaodaan Huang  

**To Vaccinate or Not To Vaccinate: The HPV Vaccination Controversy**  
Human Papilloma Virus is a sexually transmitted disease that has become an endemic. The virus has many detrimental affects on human lives and can ultimately end in death. A vaccine for this infection is available and can save many lives. All age appropriate males and females should receive the human papilloma virus vaccine because it is relatively safe, is very effective at preventing infection of the virus, and has benefits for both males and females. Studies reveal there are minimal side effects of the vaccine, statistical occurrences of HPV have considerably decreased, and disease related effects can be prevented in males. Consumers should be properly educated about the benefits of vaccination. With the vaccination of all age appropriate males and females much adversity can be prevented.
Cody Pollitt  
Mentor: Isabel Graziani  

History of War Photography  
I am going to discuss the improvement of war photography from the beginning of the camera to the more present day images of war through the usage of digital images.

Mark Austin  
Mentor: Isabel Graziani  

The Value of Design: How speculative work and crowdsourcing are diminishing the designer  
There is an increasing trend in companies seeking creative development at minimal expense, in rapid turnaround time, and with little interaction with the designer. These clients generate environments which reward designers who offer underdeveloped graphics, produced in minimal time and effort. This contributes to the encompassing devaluation of graphic design. In order to reestablish a higher standard of graphic design, designers should work together in educating the public of the benefits of treating design as a process rather than a product.

Hannah Adkins  
Mentor: Isabel Graziani  

Everything Goes Away  
This presentation is about a documentary photography project that deals with my struggle in dealing with my grandpa's diagnosis of Alzheimer's, and just how much it destroys not only the diagnosed, but the families that they eventually leave behind. I used photography to deal with the things that were happening, express my thoughts, and used it to feel normal again after my grandfather was gone.
Cora Essman & Travis Bailey  
Mentor: Kurt Shoemaker

**The Devil’s Tea Table and Raven Rock: Possible Pleistocene Lake Tight Shoreline Remnants in Scioto County**

The Devil’s Tea Table and Raven Rock of Scioto County are geomorphic features that have been assumed to be the result of groundwater erosion. However, these features exist near ridge tops. These features lie at the 825 to 900 feet elevation level, which coincides with the shoreline elevation for Pleistocene Lake Tight. This suggests that these features are shoreline remnants of Pleistocene Lake Tight. The geomorphic expression and topographic location of the Devil’s Tea Table suggest that it is a sea stack. The geomorphic expression of Raven Rock suggests that it is what is left of a wave-cut notch. The arch found adjacent to Raven Rock itself suggests shoreline erosion as well. These features are formed from wave-action erosion on resistant rock formations. The evidence suggests that instead of being groundwater erosion features, they are shoreline remnants of Pleistocene Lake Tight.

Audra Smith  
Mentor: Jerry Ross

**Physics Department Laboratory Development**

Historically, the physics department has never had any lab manuals. After equipment testing and design implementation, the physics department was able to create its first lab manual for the algebra-based students. A manual for both calculus-based physics 1 and 2 classes is currently underway. We expect to have three lab manuals by fall 2015.

David Hurley  
Mentor: Jerry Ross

**Experimental Apparatus to Demonstrate the Photoelectric Effect**

This presentation is about the testing and design of an experiment that demonstrates the photoelectric effect. For use in a modern physics course.
**Board of Trustees Award**

**Molly Dargavell**  
Mentor: Sarah Minter

**Spider Diversity in Downtown Portsmouth, Ohio**

The recent urban garden movement has stimulated an interest in the richness, abundance, and life histories of spiders occupying urban areas. As generalist predators, spiders are also active outside of urban gardens, where they likely play a regulatory role in the populations of arthropods not specific to crop production. In Portsmouth, Ohio urban degeneration and development occur simultaneously in close association. Given the generalist behavior of spiders and their ability to occupy a variety of habitats, it is reasonable to assume that spider richness and abundance will differ between specific urban habitats. In our study, we assessed the diversity and abundance of spiders occupying three distinct urban habitats within a one-mile radius from a central location in Portsmouth, Ohio during the fall of 2014. Spider presence was assessed in abandoned, managed (lawn), and naturally succeeded urban lots.

**Jacklyn Hockenberry**  
Mentor: Marc Scott

**Community Survey**

Town-gown relationships have been discussed through several academic articles over the years. Among these articles readers discover the history of tow-gown and what a particular university has done to create or improve the town-gown relationship found among that particular community. This paper uses the town-gown theory and information provided about the ideology to examine the current relationship between Shawnee State University (SSU) and the host community (Portsmouth, Wheelersburg, and New Boston, Ohio). The findings from this research suggest that the students do see a town-gown relationship established at Shawnee State. However, the relationship is weak in some areas including safety and student involvement with the community. By providing recommendations from a civic engagement program this paper hopes to give members of Shawnee State University ideas on how to strengthen the current town-gown relationship.

**Kasie Leightenheimer**  
Mentor: Janet Holtman

**Inspire My Song: Faith, Gender, and Colonialism in the Poetry of Phillis Wheatley**

An exploratory analysis of the place of early black author Phillis Wheatley in the canon of American literature, considering that her place in the American literary canon offers a multifaceted representation of early multinational literature in the country from an African American female
perspective. Though many of her famous works seem to tout her gratitude for being delivered from a “pagan land,” particularly in her famous piece On Being Brought from Africa to America, her political activism against colonialism and her many elegiac odes to artistic creation as a form of deliverance from literal or metaphorical servitude (present especially in her piece To S.M. A Young African Painter, On Seeing His Works) articulate strategies of artistic and religious resistance to oppression from her colonial captors. Wheatley’s frequent appropriation of religious iconography and moral pathos serve instead as a delicate attempt to illuminate early Americans to the colonial evils articulated within their own society while expressing a moral obligation for agency and independence within the African American race. The various permutations of oppression faced by Wheatley as an African American female living in colonial America and the ways in which she offers the possibility of deliverance and transcendence through education, artistic expression, and activism are explored, and the works of various postcolonial scholars, including Homi K. Bhaba and Ngugi Wa Thiong’o are employed in order to dissect Wheatley’s strategies of resistance to colonialism within her work. Additionally, the field of forces behind Wheatley’s notions of artistic transcendence, as well as the appropriating of Christian iconography and history toward the agency of African Americans, are compared in concert with modern African American authorial voices, such as Toni Morrison and Nikki Giovanni.

**Deanna Roberts**
Mentor: Ann Linden

**Preventing Bullying of LGBT Students**

This paper examines bullying of LGBT students and non-gender conforming students and presents a method of using young adult literature to create a learning environment that is safe and conducive to learning for all students.