### Agricultural and Biological Sciences

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology I, Oral Presentations</td>
<td>TAY 106: 04:30 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Biology II, Oral Presentations</td>
<td>TAY 105: 04:30 PM to 06:00 PM.</td>
</tr>
</tbody>
</table>

### Business and Communication

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business, Oral Presentations</td>
<td>SMI 364: 04:00 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Economics I, Oral Presentations</td>
<td>SMI 330: 04:00 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Economics II, Oral Presentations</td>
<td>SMI 345: 04:00 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Economics III, Oral Presentations</td>
<td>SMI 346: 04:00 PM to 06:00 PM.</td>
</tr>
</tbody>
</table>

### Language and Letters

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>English, Oral Presentations</td>
<td>TAY 100: 04:30 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Fiction Writing, Written Essay</td>
<td>SMI 404: 05:00 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Non-Fiction Writing, Written Essay</td>
<td>SMI 422: 05:00 PM to 06:00 PM.</td>
</tr>
</tbody>
</table>

### Performing and Visual Arts

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performing Live, Live Performance</td>
<td>MC 266 Seating/Dining: 02:00 PM to 04:00 PM.</td>
</tr>
</tbody>
</table>

### Physical and Mathematical Sciences

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Science I, Oral Presentations</td>
<td>ROM 260: 04:00 PM to 06:00 PM.</td>
</tr>
<tr>
<td>Physical Science II, Oral Presentations</td>
<td>ROM 262: 04:00 PM to 06:00 PM.</td>
</tr>
</tbody>
</table>
## Teacher Education - Oral Presentations

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>TAY 247: 04:30 PM to 06:00 PM</td>
</tr>
<tr>
<td>II</td>
<td>TAY 249: 04:30 PM to 06:00 PM</td>
</tr>
<tr>
<td>III</td>
<td>TAY 275: 04:30 PM to 06:00 PM</td>
</tr>
<tr>
<td>IV</td>
<td>TAY 276: 04:30 PM to 06:00 PM</td>
</tr>
</tbody>
</table>

## Social Sciences

<table>
<thead>
<tr>
<th>Field</th>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home &amp; Family</td>
<td>MC 174A</td>
<td>TAY 111: 04:30 PM to 06:00 PM</td>
</tr>
<tr>
<td>Political Science</td>
<td>TAY 120: 04:30 PM to 06:00 PM</td>
<td>96</td>
</tr>
<tr>
<td>Sociology I</td>
<td>TAY 111: 04:30 PM to 06:00 PM</td>
<td>107</td>
</tr>
<tr>
<td>Sociology II</td>
<td>TAY 130: 04:30 PM to 06:00 PM</td>
<td>109</td>
</tr>
<tr>
<td>Sociology III</td>
<td>TAY 144: 04:30 PM to 06:00 PM</td>
<td>111</td>
</tr>
<tr>
<td>Sociology IV</td>
<td>TAY 147: 04:30 PM to 06:00 PM</td>
<td>113</td>
</tr>
</tbody>
</table>
Digestibility and Nutritive Quality of Forages Over Time

Nathan Price, Jim Lamb (Mentor)

The purpose of this experiment is to determine the digestibility and nutritive qualities of forages over time. As grazing forages mature, the overall digestibility and palatability declines; causing grazing animals to become more selective towards less mature forages. Alfalfa, meadow bromegrass, and a combination of alfalfa and meadow bromegrass were planted in separate irrigated pastures in a replicated 2X2 square in the fall of 2013 to be utilized in the following years for grazing and digestion trials. Grazing exclosures were built in each pasture to monitor annual biomass production in addition to establishing areas to monitor forage regrowth post grazing. The exclosures and regrowth areas were established on the centerline of each pasture and replicated three times. The livestock used in these trials are yearling SimAngus heifers with esophageal fistulae and Holstein steer calves. The extrusa of the esophageal fistulae will be compared to Daubenmire square clippings taken five times during the season to determine nutritional quality and digestibility factors as the forages grow and mature. Nutritional analysis will be completed by wet chemistry, NIR, and professional laboratory and compared against themselves to the NRCS tables for nutritional requirements of livestock in their respective growth stage. The nutritional composition and dry matter digestibility of the forages is expected to decline as the season progresses and the senescence of the forages increase. It is also expected that the cattle will be able to gain weight and maintain adequate body condition scores as would be found in a healthy commercial cattle production herd. The Holstein steers will also be divided into random groups with some on a forage only diet, others on a forage diet supplemented with dried distillers grains cubes, and a third group fed a finishing ration in a pen. This portion of the research is to determine if a backgrounding program would be a sufficient means of raising cattle at a lower feed expense compared to sending cattle to a pen feeding program. This will be determined by comparisons of weights through average daily gains, and by ultrasound grading of ribeye area.

Factors that Affect the Neurological Development of Infants and Children

Anna Dalpias, Clair Eckersell (Mentor)

My review consists of a compilation of current scientific articles on the factors that affect the neurological development of infants and children. My review is intended to aid caregivers in the raising of well-developed children. It is my goal to examine the research focused on age groups prenatal to twelve years of age, with a focus on psychological, emotional, and physiological factors that affect the neurological development of children. It appears likely that the greatest deterrent to proper development is chemicals introduced in early stages of development. Other factors that may affect children’s development include, but are not limited to, nutrition and home environment. Therefore, the research done in the scientific community to date can aid in determining the factors that most highly affect neurological development in infants and children. The significance of this compilation will be evident in the use it may be to caregivers of infants and children.
Neuroprotective Effect of Testosterone on Dopaminergic Neurons in the Substantia Nigra: Implications for the Treatment of Parkinson’s Disease.

Joe Knight, Meleah Cook, Nancy Valladares, Hailee Rogers, Clair Eckersell (Mentor), Tyrel Foster

Parkinson’s Disease is a neurodegenerative disease in which dopaminergic neurons in the substantia nigra (SN) die. This neurodegeneration causes tremors, rigidity, and trouble initiating movement during walking. Neuroprotectants generally function to preserve neuronal structure, slow the rate of neuronal loss, and in some cases restore cellular function. Gonadal steroids have been shown in previous studies to have a neuroprotective effect in the brain. In this study, male rats were divided into two groups, one group was gonadectomized and the other was sham-operated thus maintaining its endogenous steroid levels. 6-Hydroxydopamine (6-OHDA) is a dopamine analog that induces neuronal death, specifically in dopaminergic neurons. 6-OHDA was injected unilaterally into the median forebrain bundle of the brain to induce Parkinson’s-like symptoms on one side of the body. Behavioral testing was done to verify successful induction of Parkinson’s disease; rats showed limb tremors only on the affected side and preference for use of the opposite limb. The rats were then sacrificed, the brains sectioned, and immunohistochemistry was performed to identify dopamine producing cells in the SN. The density of dopaminergic neurons (labeled neurons per micrometer) in the SN was analyzed. Our results showed that sham operated rats retained a higher density of dopaminergic cells in the SN compared to gonadectomized rats. This suggests that fewer dopaminergic neurons were lost in rats with testosterone compared to the testosterone-free rats. These finding demonstrate that testosterone has a neuroprotective effect on dopaminergic neurons in the SN based on the 6-OHDA model for Parkinson’s disease.

Plant Growth Promoting Bacillus

Chris Wyman, Dwight Wray (Mentor), Amie McIntier, Garett Bonds, Tom Moore, Chad Mosley

There has been much study centered on the discovery of new bio-fertilizers. Many previous studies have focused on plant growth-promoting rizobacteria that specify in nitrogen fixation. This study has focused on the isolation, identification, and the bio-fertilization characteristics of endospore forming bacilli. Bacilli were isolated from the rhizosphere of several planting locations around the campus of Brigham Young University-Idaho. Identification of four isolated bacilli took place, using several characterization and identification techniques. Bacilli was cultured and used to inoculate sterilized seed and/or soil for four different plant varieties. There were four inoculating methods used for each variety: An uninoculated control group, plants with inoculated seed, plants with inoculated soil, and plants with both seed and soil inoculated. Plants were allowed to grow under greenhouse conditions and plant shoot growth was measured daily, after germination. After an allotted growth period, root length and dried biomass were measured for each plant. Where this study is still in progress, no results have yet to be measured. We hope to better understand which, if any, of the four isolated bacilli promotes plant growth. It is also possible that a specific bacillus may promote plant growth in a specific plant in comparison to its control group, more than other plants of a separate variety. We expect to find at least one bacillus that proves to promote plant growth in at least one plant variety.
Reducing Reperfusion Injury by Introducing Chlorogenic Acid to Stroke Induced Astrocytes

Krysten Young, Robert Coffman, Daniel Ledosquet, Michael Dill, Preston Jensen, Emily Martin, Jake Keim, Griffin Cammack, Holden Higginbotham (Mentor)

Stroke is one of the leading causes of death in the United States, resulting in about 130,000 American fatalities each year. It is also a major cause of disability, leading to over 70 billion dollars spent on complications in the U.S. alone. Surprisingly, many of the complications arise once the brain begins to recover from a stroke, when reperfusion injury can cause secondary damage to healthy brain tissue unaffected by the original stroke. Reperfusion injury develops when astrocytes, the nurse cells of the brain, become reactive and proliferate at the ischemic site. Astrocyte activity helps recruit immune cells to the site of injury. Astrocytes also produce a glial scar that delimits the damage area and reestablishes the blood-brain barrier. However, immune cell recruitment and glial scar formation can also damage otherwise healthy tissue. For example, extensive glial scarring can prevent regrowth of axons, interrupting neuronal connections. Currently the primary treatment for reperfusion injury involves the use of hypothermia and/or immunosuppressants, but an effective, natural prophylactic against secondary damage has not been identified. Chlorogenic acid (CGA) is an antioxidant found in various foods such as coffee, tea, fruits and vegetables. Many studies have reported a correlation between CGA and reducing inflammation within the brain. We asked whether treatment with CGA might reduce astrocyte activation in a cell culture model of stroke. To do this, we pretreated cultured astrocytes with CGA and then exposed them to hypoxic conditions. We then measured the upregulation of glial fibrillary acidic protein (GFAP), a marker of activated astrocytes. Our results so far show that there is a reduction of astrocyte activation in the presence of CGA. These findings suggest that perhaps CGA may be a possible treatment in reducing gliosis and reperfusion injury.

Testing the Waters: An Analysis and Comparison of Modern Outdoor Water Purification Techniques

Thomas Moore, Chris Wyman, Dwight Wray (Mentor), Garett Bonds

Across the world, the greatest threat in outdoor environments is the consumption of microbe-contaminated water. Microbe-contaminated water can prove harmful for human consumption and according to the World Health Organization, is the leading cause of death in the world. Such microbe-contaminated water can include disease causing protozoa, bacteria, and viruses. Means used to purify such contaminated water include boiling, filtering, UV radiation and chemical treating. In this research, the goal is to evaluate the efficiency of chemical purification techniques available to the public. Using popular brands, the primary chemicals under evaluation are iodine, chlorine dioxide, and sodium hypochlorite. This experiment is also testing the efficiency of UV radiation via backpacking methods. Bacterial samples come from the local water sources of southeast Idaho as well as in-lab grown bacterial species. The null hypothesis is that the UV radiation, iodine, sodium hypochlorite, and chlorine dioxide tablets will eliminate all bacteria found within contaminated water samples.
Reproductive cycles in Lambda phage and its connection to host cells growth stage

Anna Dalpias, Seth Ririe (Mentor)

Viruses are well known for their ability to infiltrate cells and use the host cell to replicate themselves. The Lambda phage is one of these viruses and has approximately 48 kb of double-stranded DNA and encodes for close to 60 genes. These genes consist of early genes and late genes. The early genes are expressed shortly after the Lambda DNA enters the cell. A process unfolds among the early genes which will either lead the virus to insert its DNA into the host cell DNA for passive replication, which is referred to as the lysogenic cycle, or to replicate and cause lysis of the host cell, which is referred to as the lytic cycle. The determining factor on whether the virus goes into the lysogenic or lytic stage depends on the condition of the host cell at the time of the infection. If the conditions are favorable the virus goes into the lytic cycle, if the conditions are not favorable the virus goes into the lysogenic cycle until conditions become favorable. Scientific research has shown viruses enter the lytic cycle if introduced into the host cell during the exponential growth of the cell population. However, there is little to no research demonstrating what the virus will do in the other stages of cell growth, which includes lag time, stationary and death. It is my intent to test these stages in E Coli and determine whether the Lambda virus will go into the lytic stage for these stages, because the conditions are not considered favorable.

Sport-o-zone effectiveness in reducing microbial growth

Garett Bonds, Dwight Wray (Mentor), Thomas Moore, Christopher Wyman, Amie Evert, Chad Mosley

Ozone (O3) is a powerful oxidant that is unstable and rapidly breaks down to normal O2 in the lower atmosphere. Ozone is known to damage and death animal tissues as well as in microorganisms. The sports-o-zone is a machine that was developed as a means to cleanse difficult to clean sports equipment of microorganisms. The machine has a chamber into which the sports equipment is placed and the chamber itself seals and then creates ozone in a concentration that is lethal for the bacteria. We desired to test the correlation between time of ozone exposure and level of bacterial decontamination in BYU-Idaho's sport-o-zone. We created known concentrations of bacteria and inoculated many agar plates with equal quantities of bacteria. These plates were then placed inside the sports-o-zone for various time intervals and at various locations. Our findings indicated that while growth was greatly reduced in all runs, in some trials the increase of duration led to an increase in bacterial inhibition, while in other trials the duration had little effect on degree of bacterial inhibition. This seems to indicate that there might be a calibration issue with the machine causing it to not consistently reach the required O3 concentration to eliminate microbial growth within a single cycle.
Cell Phone Use and Leisure Participation
Kiana Barnes, Kari Archibald (Mentor)
In 1989 Motorola designed the first hand held phone that could fit in your pocket (businessinsider). Since that time the technology of the phone has drastically increased. It has come from basic calls to a hand held computer with full access to the internet. This change in technology has changed many things in our society and culture. It has changed the way we do business, travel, communicate, and perhaps even our leisure participation. The purpose of this study was to understand if there was a correlation between cell phone use and leisure participation among the Brigham Young University – Idaho students during the spring semester of 2014. In the world today it is common to have a phone that has access to the internet. This opens the world of information anywhere and at any time. Will high cell phone use correlate with low leisure participation? Does the type of phone make a difference on how much time is spent on it? These are a few questions that were addressed in a quantitative manner in order to discover if a correlation exists. Participants were chosen from Brigham Young University-Idaho’s students who were currently enrolled in the spring semester of 2014. A simple random sample was collected from students from all different majors and ages to reduce bias. They responded to an online survey during the month of June. It was anticipated that the participation rate would be 50% due to poor responses in the past. They participated in an online survey that asked questions about cell phone and leisure participation.

How do Leisure Activities Affect Relationship Satisfaction in Married Students at BYU-Idaho?
Shayni Emerson, Mitch Dooley, Lexi Mancera, Kari Archibald (Mentor)
The purpose of this research is to evaluate how leisure activities affect relationship satisfaction in married students who attend Brigham Young University-Idaho. Our research could possibly assist the married students at BYU-Idaho in choosing wholesome recreational activities that will improve their relationship satisfaction with their spouses. University organizations could also use our research to develop activities and programs that impact and improve the married students’ relationships. Our sample of 200 individuals, both male and female, married students is randomly selected from this population through the Internal Review Board Office. The survey is a brief twelve-question survey comprised of multiple choice, dichotomous, and open-ended questions as well as Likert Scales. Questions include subjects like favorite leisure activities the participant enjoys (both with and without their spouse,) gender, and whether or not they have children. It addresses how many hours per week they participate in leisure activities and if they have any constraints. The key questions in this survey asks the participant to indicate their general marital satisfaction, and whether or not it could be increased or decreased by leisure activities. Finally, the survey asks if the subjects are aware of the activities offered through BYU-Idaho which might be helpful in increasing and/or maintaining their marital satisfaction, as well as what other activities they would like to see offered. Each student in the sample will be sent an email to their BYU-Idaho email account. The initial email will contain the link to the Qualtrics survey, inform them of the nature of the study, a consent to participate, and will explain that their name will be placed in a drawing for a $30.00 Applebee’s gift certificate. One week after the first email has been sent, a reminder email will be sent. The subjects will have two weeks to take the survey. The student who wins the drawing for the Applebee’s gift certificate will then be contacted via email to arrange the transfer. A thank you email will be sent to those participants that responded.
Participation in Recreational Sports Activities

Stephenie Frye, Kari Archibald (Mentor)

The purpose of this study is to measure the participation among BYU-Idaho students involved in Recreational Sports during the spring semesters. A five-year period will be observed from spring 2010 to spring 2014. This factor will be overall beneficial for the BYU-Idaho Recreational Sports program also known as RecSports. It will show the relationship of students’ participation and identify which students are more likely to participate based on gender and class standing. The two hundred spring 2014 students will be evaluated in a survey to determine their level of satisfaction. These variables will help develop marketing tactics, budget list, sports offerings, and facilities options for the RecSports program. The study will focus on those who have participated in the RecSports program based on their gender and class standing. Ho: Freshman, sophomore, junior and senior classes at BYU-Idaho are equally participating in the RecSports Program. Ha: One or more class standings are not equally participating in the RecSports Program. These surveys will be administered to students based on their class standing in order to get a balanced response. Through these statistics will determine who is satisfied during the spring semester 2014 and predict the satisfaction for other semesters. Survey results will be conducted through Qualtrics, beginning June 16, 2014. Students will be selected using a cluster sample-surveying students within the following class standings: freshman, sophomore, junior, senior. The following are examples of questions in the actual survey: Do you currently participate in the RecSports Activities Program? What would motivate you to start participating? How satisfied are you with your RecSports experience? What are your reasons for playing RecSports? Results will show the satisfaction with participants and enable better marketing tactics and meet the needs of current student participants and motivate additional student to get involved.

The Long-term Effects of Attending a Summer Camp Program as a Child or Adolescent on Decision-making

Krista Young, Kari Archibald (Mentor)

This study is to determine the long-term effects of attending summer camp programs as a child or adolescent in regards to values and decision making. The benefits of attending summer camp programs have been well documented in children immediately after their camp experience; this study’s aim is to understand the lasting impact these programs have had on college students of Brigham Young University –Idaho. How do the decision making skills these college students learned as children or adolescents affect them now years after their experience? The population for this study is traditional BYU-I students, the sample will be 100 students selected through a simple random sample. In the sample, some of the participants will have attended camp while some will have not. The results from the two groups will be compared to ascertain what, if any, differences there are. The survey is based off the American Camping Association’s (ACA) Camper Growth Index with slight modification to make it applicable to college students. The survey also consists of questions regarding participants’ camp experiences.
An Assessment of Leadership Abilities Gained From Adventure Education in Brigham Young University - Idaho Students

Leah Hasler, Kari Archibald (Mentor)

The purpose of this study will be to discover what leadership traits are developed by BYU-Idaho students who have participated in adventure or outdoor education programs. The study will analyze to what degree traits such as selflessness, trust, teamwork, compassion, courage, etc. are developed in those students? Are there measurable differences in the leadership abilities of students with outdoor education experience as opposed to those who have none? Is there validity in weaving adventure education programs into traditional education curricula? Adventure education has continuously gained more popularity in recent years and has a positive effect in the development of younger generations. This study attempted to find a quantifiable link between leadership traits of BYU-Idaho students and their participation in adventure education programs. This study hypothesizes leadership capacities in students of outdoor education to be greater than leadership capacities in students who have not had a form of outdoor education. Data will be collected from 100 Brigham Young University-Idaho students currently enrolled in the spring 2014 semester. Currently, 12,931 campus-enrolled students attend the university. Participants will be selected randomly from this population. This sample will be a simple random selection. To reduce bias, students from varying college degrees, ages, race, and sex will be selected. A non-experimental, survey design will be used to reflect the self-reported leadership traits, beliefs, and behaviors of the students involved. Students will complete a self-assessment attitudes, beliefs, and behaviors of the students involved. The final round of surveys will be sent on Friday, June 27th, 2014. The last surveys will be accepted before midnight on Saturday, June 28th, 2014. Following reception of the last survey on June 28th the data will be analyzed. The analysis of the data will be reviewed and explained in additional sections of the research text. This document will then be distributed to fellow classmates and instructor for review and discussion.
BYU-Idaho Students Past Experiences in The Psychology of Competitive Dance: A Study of the Motivations for Adolescent Involvement

Breanna Smith, Kari Archibald (Mentor)

“Research on youth in competition has been primarily a concern of sports psychologists. This research applies prevailing theories to youth in competitive dance to help analyze the effects of such activity on youth social and psychological maturation” (Sobash, 2012). Competitive dance has grown over the past few years with over “two hundred competition companies currently in business at the local, regional, and national level” (Sobash, 2012). At each place the competition is held, they provide judges; as well as set rules for the performance. There are shows today that have shed some light on the physical and psychological demands that dancers have to face in the world such as So You Think You Can Dance, Dance Moms, and Dancing with the Stars. However, there has not been a lot said “about the motivation for parents, educators, and students to participate in dance competitions” (Sobash, 2012). Is it just the motivation of the students or is it the motivation for parents, educators, and students to participate in dance competitions? Participants will include out of 12,931 Brigham Young University-Idaho students who are currently on campus enrolled in the spring 2014 semester. A random sample of males and females will be selected. The sample of 100 students that are dance major, minor, or cluster of all ages to reduce bias. The survey will be sent to the participants through their university e-mail. The survey was created using Qualtrics, and Qualtrics is a web based tool used for conducting surveys and questionnaires. The survey included 11 questions and took an average of almost four minutes to complete. The survey will be opened on Monday June 16, 2014 and closed Monday June 30, 2014. Each participant in the sample will have an e-mail sent through their university e-mail with a link to the survey. The first e-mail will be sent out on Monday morning hoping for more participation. The second and third emails will be reminder emails, as well as a thank you email.

Current On Campus Student Awareness of Crisis Emergency Preparedness

Ryan Garrett, Kari Archibald (Mentor)

Brigham Young University-Idaho (BYU-I) is a wonderful place for members of the church as well as members of other faiths, to fellowship and receive a valuable education at reasonable cost. Like many places in the United States, it is known as a weapons free environment. Over the past several years, our society has seen an increase in media attention on the subject of mass shootings that occur at schools, theaters and other places that may or may not be considered “weapons free environments.” I feel that many students have not considered the need to be prepared for these types of situations not only on campus, but when they are away from school. It is also important for us to look to the future and the need to provide and create awareness in our families and children. The purposes of this study is to assess the current state of students emergency preparedness for these and similar types of situations, as well as to educate and inform students of the existence of the current BYU-I “Emergency Action Plan (EAP).”
Student Participation in BYU-Idaho Outdoor Activities

Brandon Rosenhoover, Kari S. Archibald (Mentor)

Evidence supports that college students should be among the largest group of participants in outdoor activities. According to studies done by the Outdoor Industry Foundation, outdoor recreation is dominated by two main groups the “Baby Boomers” and “Millennials” The definition of “Millennials” shows that many of this generation would now be of college age. This study gave evidence that “Millennials” seek high adventure activities and place high importance on the social factors of those activities. With this need for social interaction and high adventure being prevalent in the college-age generation. One possible answer to this question is, found by looking at the current industry. There has been a decline in the total number of outings since 2001. For example, the amount of total outings fell from 8.3 billion in 2003 to 7.3 billion in 2004. By looking at these numbers you will see, the challenge of competing for what is happening in the indoors. According to Ruth V. Russell who is a prominent figure in the field of recreation. The most popular recreation activities for American adults, in 2010 television at 93%; Dining out at 49%; Entertain friends/relatives at home was at 38%; Reading books at 38%; Barbeque at 35%; Going to beach at 26%; Baking at 25%; Cook for fun at 22%; Playing cards at 20%; Going to bars/night clubs at 19%; Play board games at 17%; and Go to museums at15% Not only has the numbers dropped, but also the type of recreation that people are participating in is beginning to shift downwards. “Growth in individual activities is focused on activities that can be ‘done in a day’. There is a decline in commitment-heavy activities” (Outdoor Industry Foundation, 2006c, p.11).” These findings suggest that participants are becoming less interested in activities that take a lot of preparation and planning. The impact of this tread can be felt in all aspects of the recreation including the sales of tents. In a trend seen across the industry, tent sales support the idea that the average outdoor consumer is spending less time in the backcountry and more time car camping, with this trend family camping and getting outdoors is falling by the way side.

The Level of Flow Brigham Young University-Idaho Students Experienced at the BYU-Idaho Ropes Course

Jackie Redmond, Kari Archibald (Mentor)

This study will examine the correlation between the theory of flow which is the mental state of a person when they are fully immersed in an activity, at the maximum of enjoyment, creative concentration and energetic focus while participating at the BYU-Idaho Ropes Course. This data will be taken from a population of freshman, sophomore, junior and senior students attending Brigham Young University-Idaho who have participated at the BYU-Idaho Ropes Course between the dates of April 21, 2014 through June 13, 2014. Two hundred students will randomly be selected to complete an online survey. The purpose in choosing these students was for the reason that they went up to the ropes course during the spring semester 2014. This survey will include demographic, multiple choice, and Likert scale questions in regards to their participation. Survey questions were directed in such a way that those working as ropes course employees could find a way where they could enhance their participants’ experience.
Autism Belief and Changes in Vaccination Rates at BYU-Idaho
Landon Palmer, Josh Sonderegger, Trevor Tolman, Paul Spatig, Megan Bundy Palmer, Merle Benedict (Mentor)

Our research team set out to discover if the anti-vaccination movement resulted in BYU-I students being less likely to vaccinate their children than their parents were 20-30 years ago. Vaccines, which have historically been accepted as safe, came under attack in 1998 by a study conducted by Andrew Wakefield linking vaccines to autism. The study has since been discredited, but media outlets and certain celebrities have continued to quote the study and persuade parents against vaccinating their children. The scientific community generally accepts that there is no correlation between autism and vaccinations. We are surveying Brigham Young University –Idaho students to determine if students today are less likely to vaccinate their children than the general population was a generation earlier. Data will be analyzed with a chi-squared test. We are also looking for a correlation between parents believing that vaccinating a child increases their risk of being diagnosed with autism and willingness to vaccinate.

Effects of Hydration on the Basal Metabolic Rate
Brad Dial, Merle Benedict (Mentor), Michael Greenwood, Christy Clayson, Jordan Daniels

This study sought to find the effect of hydration on basal metabolic rate among BYU-Idaho students. Five female and five male students were recruited to participate. The students fasted for 8 to 12 hours the day before primary testing. Subjects then were tested using a spirometer, which can be used to determine metabolic rate via gas exchange. This fasting test determines a baseline rate to compare hydrated results to. Subjects drank 91 ounces of water each day for a period of two days. Following the two days, subjects were again tested to determine any change in metabolic rate. We hypothesized that drinking adequate water, a minimum of 91 ounces, will increase basal metabolic rate. We expected to find that adequate hydration will increase the basal metabolic rate because water is an essential part of biological functions, including the Krebs Cycle and can improve an individuals metabolism rate throughout the day.
### Headphones and Hearing Loss

Thomas Bonds, Rory Furrows, Tyler Beesley, Morgan Barnes, Merle Benedict (Mentor), Julia McKendrick

Headphones are being used today more than ever before, especially by our youth at loud decibel levels. Tinnitus, a ringing in ones ear when there is no noise that can lead to conductive hearing loss, is at a rise in the youth of today and may become an epidemic within the next 20 years. We are doing an observational study to see if BYU-Idaho students are overexposing their ears beyond permissible exposure levels in headphones. We hypothesize that students—especially females—are overexposing their ears and are at risk for early hearing loss. We hope to use our findings to inform students of the potential hazard of excessive headphone use at dangerous noise levels. We are using dosimeters to collect the noise level at which students listen to their headphones. We will record the volume levels from student headphones for 45-60 seconds to gauge an accurate reading of the decibels to which they are exposed to. We will also collect a questionnaire recording student gender, age, how long on average the students listen to their device, and the location they listen to their device most often. We are gathering a convenience sample on Brigham Young University Idaho campus and analyzing our data using SPSS and Microsoft Excel. We will analyze the data using an independent sample t-test to compare male to female volume exposure levels. We will also analyze the data using a proportions test to differentiate between student volume levels to standard volume exposure levels.

### Health and Hand Hygiene

Mason Grow, Rachel Snow, Keturah Comstock, Johannes Bartley, Merle Benedict (Mentor), Emily Daley

Our research question is “are individuals that practice thorough hand hygiene less prone to contract infectious illnesses?” To answer this question we are collecting surveys asking students on the BYU-Idaho campus about their normal hygiene habits and how often they have contracted an infectious illness the past six months. We will be asking survey participants to describe their method of hand hygiene based on a closed-ended criteria, as well as how often they perform this hygiene. In addition, participants will be asked to recall how many times in the last six months they have had symptoms consistent with an infectious illness. We also will be collecting data on individual’s demographics to analyze any other major considerations we need to look at. Based on the information we receive we will be running statistical analyses using the SPSS program to look for correlations. We predict that students attending Brigham Young University-Idaho who use both soap and water every time they wash their hands and use hand sanitizer often will be less likely to contract an infectious illness.
The purifying effect of moringa seed-coated sand in a water filtration system for use in Abudancia, Paraguay

Chelsey Whittle, Ana Paola Amaya Antezana, Kathryn Cue, Tyler Watson (Mentor), Jayme Durer

In Abudancia, Paraguay there is a need for clean water. In order to address this need, we created a water filter using materials available to those in hardware stores located in underdeveloped countries. We built a sand filter coated with moringa seed to sterilize the water to make it drinkable. We ran preliminary tests on the filter system in order to determine the exact proportion of materials that would be most efficient. The most efficient sizing that we discovered was a three by sixteen inch PVC pipe attached to a 2.5 gallon bucket. Within the pipe we had ten inches of masonry sand, pea gravel and larger gravel. Once we perfected these sizes and physical requirements, we added the moringa seed to the sand in the system to test its anti-microbial abilities. The moringa seed eliminated the majority of coliform and E. coli bacteria. After testing the purifying properties of the moringa seed, we tested the long term sustainability of the system - which includes when and how the moringa seed coated sand in the filter should be replaced.

The Water Factor

Mckenzi Wray, Sami Keilbart, Chia Vang, Kevin Erikson, Merle Benedict (Mentor)

We are developing a prototype of a water filter for the use of the citizens in Paraguay. The original prototype was a one-inch by twelve-inch PVC pipe attached to a sink drain and a container that collects water. It was able to filter a gallon of water in three minutes and 20 seconds. Our goal is to modify the prototype to obtain a time of 32-37 seconds. When coming up with a proposal we decided as a group that if the pipe were larger then it would allow more water to move through the pipe and be filtered more efficiently. With our modifications we changed the system to a three-inch by 24-inch pipe. As of currently we are testing different gravel, pea gravel, and sand ratios to obtain the desired time frame. Our next phase will include testing the microbial factors to determine how much sand is needed to properly filter the water, which could affect the size of pipe that is required. With our test runs we have found that we will not be able to obtain a speed of 32-37 seconds, and we have decided that it is better for the water to be properly filtered rather than at a faster rate.
BYU-Idaho Student Sleep Study

Michael Kidd, Marci Johnston, Allison Sargent, Merele Benedict (Mentor), Scott West

Sleep is an important factor of our overall health. It affects many aspects of day-to-day life -- these include our physiological health as well as our energy levels, memory consolidation, and other cognitive abilities. Studies have shown the significance sleep plays in academic performance while putting these variables to the test. There are numerous studies that indicate adequate sleep has a positive affect on academic and cognitive performance. The purpose of this study is to determine if sleep affects the GPA of students attending Brigham Young University - Idaho. We will be collecting data for this research via an online, quartics survey that will be distributed to students attending the University. The variables that we are collecting are: amount of sleep, year in school, GPA, gender, marital status, and level of energy. To analyze these variables we will be using descriptive statistics as well as inferential statistics to determine if there is a correlation or causation between sleep and GPA. In certain tests we will be using ANOVA test to measure three or more variables. We strongly predict that lack of sleep or poor quality of sleep will negatively affect student's GPA and academic performance. On the other hand, as sleep increases so will student’s GPA.

College Weight Gain

Alexa Sanders, Morgan Pacis, Tiffany Kwok, Daniel Thurber, Alexis Salazar, Merle Benedict (Mentor)

Our research questions is "The Epidemic of Obesity: Does the prevalence of college weight gain and the Freshman 15 affect both male and female at BYU-Idaho, and what are the leading factors?" Our hypothesis is that there is college weight gain in students at BYU-Idaho. Freshman gain weight during their first year, but not nearly fifteen pounds. Their eating and lifestyle habits are developed during their freshman year, and stick with them throughout their college years. We plan to collect our data by handing out surveys to students throughout the campus. We also plan to send emails to the student body, and use other resources on campus, such as, The Wellness Center to collect our data. The importance of our study is that we can see the average amount of weight gained at BYU-Idaho in both males and females, we can determine the leading factors of college weight gain, make the correlation between freshman eating habits and habits for their four years. We can also use this data to target students at a certain point where they start gaining weight, and create and start programs for these students.

Do BYU-I Students Know the Difference Between Tylenol, Ibuprofen, and Aspirin?

Heather Clevenger, Austin Thornhill, Sarah Bautista, Nathan Iriogoyen, Merle Benedict (Mentor)

Western medicine has changed and developed over the past few decades. Today’s society is well aware of the drugs that are available to them, particularly painkillers. Studies have shown that the younger generation, those under the age of twenty-five have used painkillers in suicide attempts through overdose. We have surveyed over a hundred Brigham Young University-Idaho students to see if they know the difference between three specific drugs: Ibuprofen (Motrin), Aspirin, and Tylenol (acetaminophen). The information was collected through an in class assignment by students taking an on campus course. The sample size is at best random, thus the results will show if students on campus know and understand these drugs that are often misused, which leads to complicates and even death.
Exercise and Academics
Sheila Larkin, Jordan Maier, Brooke Butterfield, Brinley Brown, Stephanie Morrison, Merle Benedict (Mentor)

As college students with limited time, we want to know if taking time out of our studies to participate in physical activity has a positive relationship with G.P.A and academic performance. Studies have shown that a positive correlation exists between exercise and academic performance. We predict we will have similar findings. The purpose of the present study is to examine the relationship between exercise and G.P.A among BYU-Idaho students. We will study the population of BYU-Idaho students using an anonymous questionnaire asking students their G.P.A, amount of exercise per week, intensity, gender and year in school. We believe our findings will help us observe the relationship between the amount of exercise and student G.P.A. To ensure unbiased information, we will conduct a simple random sample from all the buildings on campus. We will also be using an online survey. We will run an ANOVA test to see if there is a difference in GPA between groups based on amount and intensity of physical activity.

Mental Health of BYU Students and the Effectiveness of the Counseling Center
Rachelle Riffle, Prince Osemene, Evan Olson, Katie Allen, Merle Benedict (Mentor)

Depression is the number one reason college students seek counseling services. Students at Brigham Young University Idaho are not exempt from that statistic. An anonymous survey was sent out to better understand the effectiveness of BYU’s Counseling Center and determine if the Counseling Center can handle the demand for services. The survey concluded if a student showed signs of depression through a mental health score to see if there was a need for counseling services. If so, they were asked a series of questions about whether or not they were aware of the Counseling Center and/or used their services, if so, did they feel like the services helped them. Ultimately, we wanted to bring a broader awareness on campus of the services the counseling center provides, information on how to get help, and to determine if more school resources need to be directed toward the Counseling Center. If there is a larger need for counseling services that will be beneficial to the students of BYU campus, then the Counseling Center cannot currently handle that load and would need to expand.

Ringworm: Can the Fungi live on Wrestling Mats and Cause Human Infections?
Amie McIntier, Amie McIntier, Chad Mosley, Dwight Wray (Mentor)

There were complaints from students at Brigham Young University Idaho (BYU-I) that the mats were contaminated and that they had giving them ringworm. This study was done to see if that could be possible. BYU-I school wrestling mats were examined on campus to see if ringworm could live on the mats and could infect a wrestler with ringworm. There has been other studies done on ringworm growth on wrestling mats and if it could infect the wrestlers, but each different studies had different results. This study was created to sample random areas of the wrestling mats and see if ringworm could be grown from these samples. Each of the ten random samples where place on two SDA plates and grown at 37C for about three weeks. Fungal samples were then classified by morphology of each colony that grew. This experiment showed lots of fungal growth, but as of now no conclusive evidence was shown that the fungal samples were ringworm.
The effects of caffeine on sleep

Brittney Peabody, Kevin Evensen, Devan Lorimer, Merle Benedict (Mentor), Gloria Amiolemeh, Andrew Call

Due to the availability and the increasing forms of caffeine consumption, caffeine is becoming more common among college students. Other studies have observed that people who consume caffeine get less sleep than people who do not. Are college students getting less sleep because of caffeine consumption? Our group set out to analyze the relationship between caffeine consumption and sleep. We are studying this due to the fact that the academic performance of a student may depend on the amount of sleep they receive. The data for this study is being collected by a questionnaire given to students across campus. We are gathering responses from different buildings around campus in a simple random selection and then selecting every third person to complete the questionnaire in a systematic manner. We are testing two variables, caffeine consumption and the amount of sleep of students. After the data is collected, we will be conducting an independent T sample test to analyze the data through SPSS to determine if there is a direct correlation. Through our own research we will be able to determine if there is a correlation or not between caffeine and sleep among BYU-I students.
Adoption.com Quantitative Research Project

Andrew Ainscough, Scott Austin, Jake Boyce, Curtis Bishop, Austin Smith, Kory Roisum, Bill Crawford (Mentor)

Recently we had the opportunity to work with adoption.com in trying to understand how viewers of their website could best be served an adoption review page. In doing so we used a quantitative approach to understand adoption.com’s consumers through creating and distributing a survey. We learned there is much more to writing a survey than simply putting some questions together. We challenged ourselves through asking deep questions as to why consumers value certain aspects of review sites, and what sets an adoption review site apart from other review sites. From here we developed questions that were very specific to what our client (adoption.com) and we felt were relevant to their needs and measurable. Currently our survey is distributed and we have not received feedback yet. We are confident that when we do receive our feedback we will be able to analyze the data and find a very good trend to help adoption.com best fit the needs of their consumers. We then will put together our findings in a Power Point presentation and present our findings to adoption.com.

Adoption.com: Adoption Agency Review Site

Desiree McCarthy, Travis McClure, Matt Seivert, Zak Pennock, Ben Eagar, Kennya Figueroa, Bill Crawford (Mentor)

The study is focused on developing an adoption agency review site for Adoption.com, a highly reputable facilitator for adoption agencies. The quantitative study is comprised of 8 survey questions, which consist of nominal, ordinal, interval, and ratio measurement scales. The content of these questions center on discovering the adoption community’s preferences, regarding review site features; the study is specific in determining the type of review site features that individuals will find most beneficial when researching adoption agencies. The survey has recently been distributed throughout Adoption.com’s database, where members of the adoption community have been asked to complete the survey through Qualtrics.com. Adoption.com plans on using the survey’s findings, in order to generate a successful adoption agency review website. The surveys will be officially collected in the next few weeks—the study’s findings and results are still pending. Once the data is collected, the results will be quantitatively analyzed and used by Adoption.com in determining beneficial review site features.
Individual and Collaborative Translation

Johanna Frias, Marc Skinner (Mentor)

I will be putting forth 50 hours of volunteer work with two groups of five native Spanish speakers working independently and collaboratively. I will be using Word Reference, Google Translate, Spanish and English dictionaries, and working with other volunteers to translate news articles into a person’s native language. I will download batches of news articles, translate them from English to Spanish and then send them to each of the volunteer native speakers. They will then work on the same articles collaboratively. Native Spanish speakers, at least 5, will then review these documents, rate them from 1-10, with 10 being the highest, for accuracy and leave their opinions. This process will be repeated several times, providing me the opportunity to demonstrate progress from beginning to end of my time working with this program. I will personally keep a record of the amount of time it took to translate each document. This will also show progress development from the first to the last document I will work on. I will also rate my personal impression of the difficulty level of each document. Purpose: The purpose of my research is to show the importance of collaborative work in translating and how a better product will come from it. In order to effectively provide the audience with the required information, multiple minds should work together to provide different culture, linguistic approaches and points of views in order for there to be successful translation. Career goals: My goal is to become an effective translator, so this project will help me gain the necessary tools and experience to reach my future aspirations.

The Effects of Big Data on Society and Technologies to Safeguard Privacy

Christopher A. Hannan, Blaine Robertson (Mentor)

In the late 2000s, hundreds of non-profit organizations were specifically targeted and harassed by the IRS based solely on their political beliefs. As a result, these organizations’ tax exempt statuses were delayed by as much as four years. These organizations were trying to exercise their First Amendment rights by speaking out against the direction their government was headed. In turn, they voluntarily entrusted specific applicant information with the IRS, believing there would be no negative repercussions for doing so. Similarly, we have entrusted our most personal information to companies like Google and Facebook; they own and collect conversations, photos, social interactions, and location data of almost everyone online. This data has been freely shared with the United States government since the mid-2000s. Is it possible the government could target other people or groups based on information stored in corporate databases? The purpose of my research is to explore the effect “big data” has on society. Additionally, I’ll explore some of the upcoming and current technologies that are available to people to safeguard their data and privacy.
Avoiding a 2017 Lockout: A Research Analysis of the NBA Collective Bargaining Agreement

Hayden Coombs, Lane Williams (Mentor), Marc Skinner (Mentor)

The collective bargaining agreement (CBA) of the National Basketball Association (NBA) is the contract between the NBA (the commissioner and the 30 team owners) and the National Basketball Players Association (NBPA) that dictates the rules of player contracts, trades, revenue distribution, the NBA Draft, and the salary cap, amongst other things. When both sides cannot come to an agreement, the league goes into a state of lockout. The NBA has gone through four lockouts since the 1995 season. During a lockout, each party engaged in discussions is losing money. The fans also lose out because no games are being played.

For this project, I conducted a research analysis on the current CBA. Administration of a survey sent to 1000 NBA fans and professional journalists determined a need to: 1) Analyze which parts of the current CBA will cause either side to opt out of the current agreement in 2017, and 2) Create a resource that will help the average NBA fan understand the technical and business sides of the NBA.

Findings included:
• Respondents felt the franchise owners were well-represented during the 2011 lockout and labor negotiations, but felt the NBPA was misrepresented.
• Respondents didn’t feel strongly the owners would have reason to opt out of the current CBA in 2017, but overwhelmingly thought the NBPA would.
• Three significant factors that respondents felt caused the 2011 lockout are not believed to be as critical leading to a 2017 lockout. The factors that respondents felt could lead to a 2017 lockout were centered more on players’ rights.
• These feelings of misrepresentation by the NBPA will be a driving factor behind an opt-out of the current CBA in 2017.

The final product of this project includes a poster on my research findings, a website that I designed with the purpose of informing the casual NBA fan about issues facing the NBA and its future (www.nbabusiness.com), and a detailed analytical report that walks through every step of the research process, which upon completion, will be sent to NBA Commissioner Adam Silver.

Do video games affect social interactions and communication?

Leslie Chacon, Lane Williams (Mentor), Brittany Adams, Garret Braithwaite, Steven Hummer, Bianca Mcdown

This research looks at the results of aqualtics survey in which we try to find answers to our Meta question: “How do video games affect social interaction amongst students?” We have yet to see the findings of our survey, but we expect to see result of how many students play video games; and which gender is more dominant in their playing. Moreover, we hope to see a correlation on playing video games and how much social interaction students have. By social interaction we mean going on dates, spending time with others on weekends, and time spent in a group of friends without playing video games. Furthermore, we use other studies that have taken place before to compare and contrast what their findings highlighted. One of those studies is from Hartman, T. (2006). “Gender and Computer Games: Exploring Females’ Dislikes.” This study helped us clarify how females feel about computer games in comparison to our studies.
**Effects of Texting on Relationships**

Erik Olson, Josh Williams, Julissa Wade, Clara Swift, Brandon Speakman, Lane Williams (Mentor)

Texting increases to become the main form of communication that young adults use when communicating with their peers, friends, family, coworkers, and their romantic partners. There are differing opinions on whether it is effective in accurately portraying emotions for the participants, if it directly affects relationships with positive or negative outcomes on the emotion/mindset of those that use it. We hypothesize that while texting may be convenient, it is not an effective form of communication, students that use it find themselves perplexed when it comes to relationships, and unsure of emotions being conveyed through the conversations they participate in. To support our hypothesis we crafted a survey of 24 questions. The survey was made up of multiple choice and likert scale questions. The survey was sent out to 250 randomly selected members of the BYU-Idaho student body. While we have yet to receive results from the survey, preliminary research has shown that texting is not an effective form of communication and alters the users perception of emotions being conveyed in romantic relationships.

**How much do BYU-Idaho students know about current events?**

Veronica Arroyo, Aubrey Nielson, Alexa Knutson, Lane Williams (Mentor), Steven Dance, Joana Ribeiro

For our research project we wanted to find out how many BYU-Idaho students know about current events and what is going on in the world around them. We randomly sent out surveys to 300 students. The surveys contained 18 questions that were about American politics, foreign politics, and popular culture. As a group, we came up with the questions and created it using Qualtrics. From the surveys we found out that most students acquire their news through news apps and through social media which include Twitter, and Facebook. Utilizing a Likert scale, we asked them to rate their knowledge of how much they know about the news. However, only less that 40% of the students felt that they knew much about current events. But more than half of our fellow peers claimed that they spent less than 15 minutes a day looking at and reading the news. When testing them on the political figures, we provided pictures and asked them to fill in the blank answer who the figure was and if they did not know to simply write that they did not know. The majority of the surveyed individuals knew more about American political figures than foreign political figures. But most knew more about popular culture than the other two topics. From our findings we were able to conclude that a majority of students attending BYU-Idaho do not generally know much about current events. Alas the information that they do know pertains to pop culture through social media.
Television Viewing Habits of BYU-Idaho Students

Cira Fear, Natalia Hepworth, Jonathan De Leon, Miles Blaine, Lane Williams (Mentor), Megan Brownlow, Clarissa Helman

Our group was interested in answering the question, “What television shows are Brigham Young University – Idaho (BYU-Idaho) students watching?” We want to know what shows they watch, how they watch those shows, and when they watch those shows. Through background research, we found that television consumption has a profound impact on the way one thinks and behaves. Television habits influence one’s opinion of their own self as well as those around them. The actions depicted in television shows have been found to encourage certain behaviors based on the shows one chooses to watch. Both of these influences television holds over us can be stronger or weaker depending on how much television one consumes. Because of these findings, it would be valuable to know what television BYU-Idaho students are consuming, and how much. Knowing these details can help better infer how BYU-Idaho students’ thoughts and actions are being influenced, for better or worse, by the television they consume. Predictions such as those would help the school more productively educate students and guide them away from harmful stereotypes and behaviors perpetuated by television shows. We have sent out a survey to three hundred Brigham Young University - Idaho students, asking questions concerning how often and through what methods they consume television media. Through the analysis of this information, we intend to better understand what television media BYU-Idaho students consume and how this may influence their thoughts and actions.

What do BYU-Idaho students consider to be newsworthy?

Katie Bailey, Jenna Scarnecchia, Kelsey Hurst, Alexander Rupp, Lane Williams (Mentor)

Students at Brigham Young University-Idaho use social media on a daily basis to both share and gather information. This paper outlines a data analysis study completed to answer the question: What do BYU-Idaho students consider important to share on social media? To complete this study, a codebook was created to categorize all information that could be shared, so that it could be compiled for further analysis. An in-depth study of Facebook posts will then be compiled over a weeklong period, with each hour of the day broken up into six-hour time frames. Upon completion, the data compiled will be analyzed for us to have a minimum of five findings based around what BYU-Idaho students consider to be newsworthy. Our intention of the research is to get an idea of what things are important to BYU-Idaho students and to spread awareness, if needed, of staying up-to-date with actual news locally, nationally, and worldwide. We are a group of four Communication students in Brother Lane William’s Comm 280 class. We intend to display our findings through a poster at the Research and Creative Works Conference on July 17, 2014.
Career Decisions and Academic Performance
John Ercek III, Robert Spencer, Robert Fletcher, Lane Williams (Mentor), Matthew Scott

We are conducting a research study to determine how a career decision affects overall academic performance. Our purpose is to assist the Academic Discovery Center at BYU-Idaho in determining how students make their decisions and how that affects their school success. We will be conducting a survey of a random sample of BYU-Idaho students to determine their certainty in their career goals, and what factors influence that decision. We will be comparing this information with self-reported GPA to determine the relationships between these factors. Our expectations are that a greater level of certainty and/or a strong sense of satisfaction will predict a higher level of academic performance. We also expect that a higher level of certainty and/or satisfaction will also be related to how long they have had a particular career in mind, and that those who chose their careers based on hobbies and skills will do better academically. Our expectation is also that academic performance will either significantly increase or significantly decrease as students remain in a major longer. We hope, from our findings, to help the Academic Discovery Center provide more quality service when assisting students in their career decisions.

Do BYU-I students interact with Church social media?
Carissa Simons, Whitney Claflin, Lane Williams (Mentor), Morgan Harper, Nikki Siegel, Jessica Blain

The LDS Church in recent years have made considerable efforts to improve their outreach. Much of that has taken place on different social media platforms such as Facebook, Pinterest, Instagram, and Twitter. The target audience of all these platforms are teenagers and young adults. We want to know is it effective. Do college students interact with what the Church places on social media? This question needs to be researched to help us understand how far college students go to share their beliefs online or at all. Also, it would be interesting to know how effective the Church is in convincing college age students to share their beliefs based on the content placed on the different social media platforms.

LinkedIn’s Effect on College Students and Their Future Careers
Jamie Benson, Lane Williams (Mentor), Bryan Bingham, Kristin Crockett, Tavia Woolley

LinkedIn, created in 2003 is a rising popular form of communication for employers and future employees. Reaching as many as 259 million users, LinkedIn is said to make the job hunt process easier. The intent of our study is to see if college students are capitalizing on LinkedIn resources, and what majors are supporting the program. Our prediction is that students who exercise LinkedIn’s social media resources are those from two prominent majors; business and communication. By conducting a focus group we hope to achieve a greater understanding of which employers college students are connecting to, how long they spend on LinkedIn, what benefits they have already received, and if they do not use the program what causes them to make that decision. By researching these topics we will be able to come to the conclusion whether or not LinkedIn is an effective way to self promote, receive new job opportunities, and make vital connections.
The Way News Travels

Lesleigh Coxe, Andrew Sorensen, Mike Hesse, Daniel Kemer, Lane Williams (Mentor)

This research studies which forms of mediums students will use to get his or her news. The research will find which type of devices students will use in order to get their news, whether by an application on a mobile device or by an Internet website. With this research, the study will also find how frequently students check the news. It will also see how frequently he or she shares a news story and which type of stories that is shared the most, whether it is breaking news or an emotional story. The research will find how much the student’s stories that he or she will find most appealing, either by a downloadable application, or by his or her mobile devices, or through an Internet website. The research from this study will help gain a better understanding of where students are going to for news information and how frequently he or she are keeping updated and aware of what is happening in the world around them. (There is actually 167 words in this.)

To Post or not to Post that is the Question

Devin Pincock, James Bullough, McCain Kennedy, Amy Perez, Kelsie Smith, Lane Williams (Mentor)

We are studying why or why not people post about religion on Facebook. Before our focus group that we conducted, we found that within our group fear was one of the biggest factors of why not posting, also those that do not post vastly outnumber that those that post. We where hoping to find out a specific why, one or two words to describe the why don’t you post. Even after asking for a reason, we did not find one or two reasons why not. This was effected by most of those in our focus group having posted a link from lds.org also that the word fear and other negative words that we would use to describe a “why not” would shut people down and silence the room. Other findings that we did not expect where that return missionaries were more likely to post then those that had not been on a mission. The group also discussed that there is enough material from the church for those that want to post. We also found that the group did not agree on weather or not there should be an introduction to the like. Even those that have not posted a link to lds.org still have what their religion is within their about page on Facebook.

What are Brigham Young University-Idaho students sharing on Facebook?

AJ Rupp, Kelsey Hurst, Jenna Scarnecchia, Lane Williams (Mentor) , Katie Bailey

Students at Brigham Young University-Idaho use social media on a daily basis to both share and gather information. This paper outlines a data analysis study completed to answer the question, what do BYU-Idaho students consider important to share on social media? To complete this study, a code book was created to categorize all information that could be shared, so that it could be compiled for further analysis. An in-depth study of Facebook posts will then be completed over week long period, with each hour of the day broken up into six-hour time frames. Upon completion, the data compiled will be analyzed to answer several questions. After the information has been gathered, the researchers will know, what students are sharing, when they are sharing it, and what they consider important enough to share on their Facebook page. The findings of the group will be presented at the BYU-Idaho Research and Creative Works Conference.
An Analysis to Create Optimal Pricing Strategies for a Value Discount Card

Jason Nestor, Eric Larsen, David Barrus (Mentor), Mark Lewis

There are multiple types of discounts one can receive when making a purchase. Some of the types of discounts one can receive are through a business's loyalty card, a college or university's “Starving Student” discount cards, and coupon booklets sent through the mail to residence of a specific metropolitan area. There are multiple sources of coupons available, but little is known as to the demand for a card providing a set discount while charging both a one time membership fee and monthly fee, said card will be referred to as a “value discount card”. The reason for a two part pricing tariff is that it provides a higher revenue from the consumers in comparison to a Starving Student Card. Consumers in general are more willing to pay greater amounts for an initial membership fee than they are to pay for monthly fees. As the consumption of a good or service increases, utility falls and consumers are less willing to pay for the additional goods and services. This validates a high one time membership price and a lower monthly price to retain membership. The model cannot be effective with current coupon cards options. The value discount card becomes superior to the traditional savings cards by allowing multiple uses at given locations. Due to a value discount cards potential for continuous use, the card will incentivize demand. A value discount card provides continuous savings at multiple stores thus encouraging more spending by the consumer in order to save more than what they spent for the card. Given a monthly fee, the consumer incurs minimal costs to maintain membership. From a business standpoint, a value discount card provides advertising, augments consumer spending, and helps build a "loyal" customer base (Dongsuk, et al 2007). Profit opportunities are dependent upon pricing strategies of the said value discount card. The purpose of this paper is to find if such a demand is present in the city in which Brigham Young University-Idaho resides, and if so, what would be an optimal price for an initial fee, and a monthly fee.

Consumer Choice: Embarrassment and the Use of Self-checkout Systems

Jared Robertson, Kenny Scoresby, David Barrus (Mentor)

With the growing implementation of self-checkout systems, there is a benefit to understanding consumer behavior with regards to the technology. The high cost associated with the purchase of these systems requires a marginal benefit that is greater than that of employing additional labor to serve customers. As such, this research attempts to understand how specific categories of products influence the consumer’s decision to use a self-checkout system. Data is gathered through a survey of randomly selected students from the Brigham Young University-Idaho campus. These students are asked to indicate their likelihood of using a self-checkout system in lieu of purchasing from a cashier. With this survey data we are able to analyze the purchasing behavior exhibited by consumers when they purchase specific groups of products (ie. medical, food, sanitary, and sexual wellness products). The implications of this study are of great fiscal benefit to firms that are interested in using a self-checkout system in their store.
Differing Central Bank Mandates and Their Implications

Daniel Kinney-Spears, Kerry Webb (Mentor)

1. The economic roots of differing mandates. (explicit and implicit mandates, as well as auxiliary functions) a. How do banks determine preference/rank of importance? Build off other research. i. What are U.S. preferences? How has this affected FED behavior? ii. What are preferences for other central banks? 2. Do central bank mandates really effect monetary policy? a. Does the U.S. make different decisions with a dual mandate than the ECB makes with a single mandate? (other examples as well, AU, JP, DE, etc.) b. How has they behaved in recessions? c. How does ECB/others compare? i. What each did during the 2008 crash ii. Differing outcomes? d. Econometric analysis (MLR) – Simplify the top one or two ranked preferences for mandates (part two above) and test this with economic growth over time, as well as unemployment, price stability, and 3. Compare European “federalism” with U.S. federalism (economic) a. What effect does the dual mandate v. single mandate have on member states/states? b. (Fiscal and) monetary policy comparison c. ECB v. FED and economic growth, unemployment, population, FX, etc. (states, member states) d. Econometric analysis (MLR) (Needs refining) – using state level and member state level data, compare the effect of ECB relative to FED on price stability, unemployment, growth, etc. etc. i. Issues with comparing macro indicators across countries (Ask bro webb) 4. Employment mandate and economic growth/stability/inflation a. Do specific employment mandates affect employment? (Also use preference info. If a country has an employment mandate but it’s “ranked” 4th on importance, does it count?) b. Econometric analysis – Australia/US/others have employment targets, others do not. How does this affect unemployment rate, average unemployment, recession recovery, growth, stability, etc. etc.

Factors in Determining Charitable Donation Rates

Moriah Horner, Andrew Horner, Robert Goodin, David Barrus (Mentor)

In the following paper we discuss how different variables affect charitable donations on the county level. We looked at variables such as: population, religious affiliation, unemployment, median income, growth rates, college graduate rates and, rural vs. urban setting. Then we saw how they affected charitable donations in the county. We found that on average, rural counties donate less to charity than counties with average urban development. We also discovered that on average as unemployment rates go up, charitable donations go down. On average, counties with a larger population donate more to charity as well. This information could be useful to anyone running or looking to start a non-profit organization. It could also help to target where firms should to gather funding for their non-profit organization. Furthermore, if counties want to increase the amount of charity given, they know what factors they can try and improve to help create an environment where their resident will donate more to charity.
Macroeconomic Factors that Influence Total Consumer Credit Card Debt

Leonel Giron, Ariel Wang, Sandra Laurentino, David Barrus (Mentor)

Credit card ownership has become more and more common among U.S. households. This is concerning because high credit card debt lowers future spending, which eventually slows down economic growth. In the past, researchers have tried to gauge financial knowledge, age, number of credit cards, delay of gratification, and attitudes toward credit card. The problem with these factors is that in some cases it is difficult to accurately gauge them. The research looks at macroeconomic factors that can be easily quantified to better understand the level of household credit card debt the U.S. in an annual basis. We found that as historical credit card interest rates increases, total consumer credit card debt decreases. As inflation increases over time, total consumer credit card debt decreases. As inflation adjusted income increases, total consumer credit card debt does as well. When the number of new houses sold increases, total consumer credit card debt decreases.
Affects of changes in farm input price indices upon agricultural sectors in the Northwestern United States

Ha Bui, Joshua Tibbitts, Jeffery Hendrix, David Barrus (Mentor)

For our project, we decided to study the effects of agricultural output and returns to operations caused by variations in capital, labor, and various farm inputs. We focused primarily on the Northwest area of the United States, which includes the four states: Idaho, Oregon, Washington, and Montana. Our process included gathering data from the USDA-NASS website, running multiple regressions with output and returns to operations as our dependent variables, and determining which inputs affected agricultural output and returns to operations. Based on our results, we have found that wage rates, agricultural services, capital (tractors, trucks, machinery, etc.), seed, taxes, and other variables were significant factors affecting production output. Factors that are affecting returns to operations include: wage rates, self-employed laborers, and capital (tractors, trucks, machinery, etc.). Chemicals, fertilizers, and pesticides were the most insignificant factors affecting both output and returns to operations. Labor costs were somewhat significant in both models. Montana was found to have the highest returns of the four states that we researched with Idaho ranked third out of the four states. Implications of our research indicate that capital and labor inputs are the most significant factors in forecasting industry-wide strength and profitability.

Brigham Young University Students and Moving Violations

Tristan Ackerman, Trey Bluemel, David Barrus (Mentor)

Our study is to determine the driving habits of different students at Brigham Young University - Idaho (BYU-I). BYU-I has a large student body, with much diversity in the students. The students are from all over the United States and internationally. This includes males and females, with varying driving habits. We want to determine if there is variety among the different chosen majors in driving. Our study also includes the make of the car, the style (four door, two door, SUV, etc.), color, and where the speeding took place (in town, rural, or on a highway). Race and age (when the ticket was issued) are also factors that have been included. We conducted a survey of 164 students at BYU-I through an online survey. The goal of the survey is to identify what majors, gender, ethnicity groups, vehicles and ages are more likely to be involved in a moving violation. We are currently working on results for this study.
Does Canada have the Dutch Disease?

Todd Godfrey, Allan Walburger (Mentor)

The bitumen oil developments currently taking place in Northern Alberta have been claimed by many to be the largest industrial project on the planet. Some experts believe that these projects have brought along with them effects that have hurt important parts of the Canadian economy. According to these experts, Canada is experiencing a case of the “Dutch Disease.” The Dutch Disease happens when a booming export sector, usually natural resources, causes another sector of the economy to experience decreased or negative growth. In this case, the argument is that the rise of the booming Canadian oil industry has significantly contributed to the decline in the country’s manufacturing sector. Others, including former governor of the Bank of Canada, Mike Carney, argue Canada is not experiencing the Dutch Disease, and that its economy is much too diverse for this to happen. Instead, other factors have been the cause for Canada’s manufacturing decline, and the economy is still in better shape as a result. The purpose of this project is to test whether the Dutch Disease has actually taken place in the Canadian economy using multiple regression analysis. Using multiple independent variables and the Dutch Disease model, this analysis will determine whether the effects of the Dutch Disease have significantly contributed to the decline in Canadian manufacturing production. Various control variables will also be used to determine whether other factors have been more significant in the manufacturing decline. The results of this analysis will help one better understand what overall effects the booming oil industry has had on the Canadian economy.

Financial Differences between Nursing Facilities in Rural and Non-rural Areas.

Paula Barriga, David Barrus (Mentor)

Abstract.- After studying the wages of nurses in rural and non-rural areas, we could see a clear difference between them. Because rural areas do not have a big population as a big city, the facilities are not frequented as much as in an urban area. Also we noticed that out of 18 urban facilities and 34 rural facilities data, rural facilities have a total of 2815 beds and urban facilities have 2035. We can conclude that rural facilities do not have the capacity or ability to attend many patients compared to urban areas. Consequently, wages in a rural area will be lower to minimize costs. We will study how Medicaid is used to pay the bills and how this affects the performance of the personal. Previous studies show that lower wages influence the performance of the personal. We are not going to take into account the quality of attention given. It is assumed and noticed by other sources that wages and quality of attention are correlated. A low wage will result into poor attention to the patients.
Commodity Value at Risk Modeling

Travis Loeb, Ricardo Correa, David Barrus (Mentor)

The high levels of volatility in energy commodity markets create opportunities for both the hedging and speculation of changing commodity prices. The presence of this volatility generates risk for both the sell and buy sides of a trade. While there are many ways to evaluate the risk of a trade or investment, this study seeks to establish a Value at Risk (VaR) model to forecast commodity market risk. Hedgers specifically use VaR models to calculate the probable loss on their investment in the near future, often ranging from the next day to three weeks from the present time. Specifically, VaR models employ either pure statistical methods or simulation-based methods to predict future price movements. Our model will test the variables that significantly affect commodity prices, more specifically natural gas. Next, we will use the significant variables in a VaR model, where the results of the VaR model will be tested against actual price movement. Our hypothesis is that the use of Autoregressive Conditional heteroskedasticity regression will allow our inputs to be more relevant, which allows us to have more accurate future price predictions.

Do Guns Kill People?

Jimmy Mancera, Mitchel Murphy, David Barrus (Mentor)

As gun violence takes the spotlight in news broadcasts, many suggestions on policies to make our communities safe have been highly debated. It is at times difficult to obtain an objective perspective and find solutions from these broadcasts and agenda motivated organizations. As in the law of large numbers, it is the objective of this analysis to be one more voice on analyzing the effects of firearm policies and the success that such laws may or may not experience. It is the hypothesis of this study that increased firearm regulation fails to decrease gun violence on the account that violent crimes are already on the decline, laws restrict law abiding citizens, and that there are other factors that affect violent crimes more significantly than firearm laws. To find factors that affect gun-related violent crimes, data from the Census Bureau will be analyzed to find other social factors that may be far more related to violence and deaths attributed to firearms. Findings of significant factors in gun violence will be identified and interpreted.

Factors contributing to the likelihood of Crime Reporting (2011)

Kegan O’Connor, Ian Hornbaker, Tyler Gardner, David Barrus (Mentor)

Our research is based upon the National Crime Victimization Survey and seeks to take the data found through the survey, along with appropriate weights to form a representative population estimate, to find statistically significant factors which have an effect on the likelihood of an individual to report a crime to which they were a victim. The methodology which we will use is linear regression, based on the data collected by the US Census Bureau, and creating an appropriate dummy variable for if a crime was reported, and using that variable as the response variable. Then taking that response variable we will run a regression with factors such as marital status, age, relations to offender, type of crime and other variables as dictated by a theoretical bases by previous similar studies. We hypothesize to find that certain economic and social pressures have a significant bearing on the likelihood of a crime being reported. Given the results of the study we will attempt to find normative suggestive solutions to increase the likelihood of individuals reporting a crime.
Player Efficiency Analysis, NBA

Zachary Davis, Adam Bahr, David Barrus (Mentor)

Across the world, sports has grown into an aggregate multibillion dollar industry. There exists huge potential for sports clubs to make gross amounts of money. Humans naturally are competitive beings, and therefore want their chosen team to be victorious. In order to keep fans undying support, General Managers, and owners of clubs need to maximize team performance given the limited talent of players. Owners also face a monetary limit. In the National Basketball Association, the current luxury tax line was $71.7 million. General Managers therefore must trade for, contract, and draft the best players they can, without exceeding the cost limits placed on them by the league. Just about every player in the NBA has come up through the draft. The NBA draft presently consists of two rounds, each of the 30 teams gets one pick per round. With only two picks per draft, NBA teams must figure out which players offer the most benefit. There are approximately 4830 players playing Division I basketball in the NCAA in any given year. If Division I college ball was the only pool into which players were drafted from, this would mean that only 1.2 percent of players are drafted into the NBA each year. In order to get the most out of each draft class, a team must decide who to draft, and why to do it. With so many available players, it is possible to find a “sleeper superstar.” In our study we recorded each drafted player’s efficiency rating as calculated by John Hollinger, basketball analyst for the NBA, and V.P of Basketball Operations for the Memphis Grizzlies. Career college stats also have been gathered for each drafted player from 2004 to 2013. We hope to discover which college statistics best carry over to the NBA, and contribute to a player’s overall efficiency. By doing so, we aspire to be able to best predict top draft picks for upcoming draft classes, in an attempt to help organizations get the most for their dollar.

The Sharpe Ratio: Can technical analysis consistently outperform a random selection procedure.

Carl Jurrus, Allan Walburger (Mentor)

Risk and return are the great challenges to investors. In the most general sense, less risk would on average imply less return, while a higher level of risk would on average imply higher returns. Some believe that through the analysis of past data, an investor will be able to gain higher returns while minimizing risk. Another group of investors believe that past performance does not dictate or indicate the future performance of an investment; therefore an investor may randomly choose investments and perform at the same level. The first group uses complex mathematical analysis, while the second group simply chooses a risk level. The purpose of this study is to test whether or not returns can be improved through analysis of past data by measuring returns of funds that are chosen using a Sharpe ratio analysis, and comparing those returns to randomly chosen funds of a relatively similar risk level.
What are the best common technical analysis indicators to use for trading and investing given a stage in the business cycle?

Leonel Giron, Allan Walburger (Mentor)

It is clear that throughout a business cycle, where one is witness of expansion and recession, investors and traders alike adjust their decision making strategy to be as profitable as possible given the current market conditions. Traders in the stock market are no different from the rest. For decades, they have relied on technical indicators that help them trigger points in time where it is suitable to be exposed to a certain security while in other cases is best to leave a position. However, it is clear that these technical indicators do not always perform the same. As a result, the weight needs to be adjusted when one is making an investing or trading decision. The economic research provides an economic analysis that can be used to recognized patterns that help correlate the performance of certain technical indicators given the state of the economy. This in return will be quite significant when making trading decisions since it will allow a trader pay more attention to a particular set of technical indicators given the business cycle. This in return will help a trader perform better than his peers who are not as effective in adjusting the weights for multiple technical analysis indicators.
A Lesson In Turn-key

Blake Davis, Bill Crawford (Mentor)

Owning a small, growing business is both satisfying and arduous. Staying small and doing all the work yourself is less stressful and sometimes feels more secure. The journey I have undertaken with my small lawn care business is to break the bounds of comfort and build an infrastructure to make it turn-key. Some of the infrastructure includes: A redesigned website with enhanced payment options, redesigning our logo and brand, SEO enhancement for better local search results, hiring and training new employees and a manager etc. Future plans of this business are unsure, but the lessons learned by the challenges faced in making it run itself will be invaluable. If ever I turn it over to someone else, I want them to be able to jump in the drivers seat and go!

Inventory Tracker

Christopher Watson, Kory Godfrey (Mentor)

This project allows the user to create an inventory of items, listing the amount of the items in store, the unit in which it is stored and used, and how low the item is permitted to go before the client is alerted. The user will be able to add, modify, and remove items from the database without accessing the database themselves. The user will also be able to print off a list of all the items at or below the limit. This allows the client to keep track of their products in stock. The main business it will focus on improving is the food industry such as a bakery or restaurant. This means that the inventory will also keep track of recipes, what ingredients are used and how much of the ingredients are used with a conversion method that will take the recipe and item units into account. The client will be notified when any of the ingredients are low for any recipe in their menu.

Learning iOS Development with Lynda.com and The Big Nerd Ranch

Nathan Schultz, Lee Barney (Mentor)

Summary: The purpose of my project is to learn to develop applications for iOS. I have and plan to continue spending time watching videos, such as “iOS Essential Training,” on Lynda.com and building the apps that they demonstrate, for example, the simple note app. I also plan on reading and completing the projects found in “Object-C Programming” and “iOS Programming” from the Big Nerd Ranch series. Justification and Professional Goals: Ultimately, I would love to become an iOS developer. I have switched from a Computer Science major, to a Web Designer and finally to a Web Developer, all with this aim in mind. I have strived to learn to program and design so that I can excel in this field. By studying from the Lynda videos, the Big Nerd Ranch books and additional resources as needed, I will have a basic understanding of iOS development. This will prepare me for, and get me started, building my own apps and finding employment developing iOS applications. Timetable: I plan to spend 6 hours per week working on iOS development, whether that is watching videos, reading, or completing the projects presented in these materials. I started the week of May 5 and will finish my last two hours during the first week of July. I will began with the Lynda.com videos and will next move to the Big Nerd Ranch books once those are completed.
**MongoDB: Useful system or just another trend?**

Austin Howell, Kory Godfrey (Mentor)

Downtime, cost and availability are very important when choosing a database management system. I will be trying to solve those issues by implementing a database into the NoSQL database management system, MongoDB. MongoDB’s design allows for the replication and splitting of data. This results in low downtime and a high availability system. MongoDB uses a document based system which allows for a dynamic design. I have created an authentication model that I implemented to show the features and adaptability of MongoDB’s design. My model allows users to log in to specific applications with a sign-on, change personal information, and reset passwords. The system will also log failed login attempts. Implementing this model in MongoDB will resolve the problem of having extensive downtime and will increase availability for the end users of the applications.

**Storystem.com**

Eric Butterfield, Eric Karl (Mentor)

The Internet is a gateway to knowledge, art, creativity, and pictures of cats. Actually, the Internet is mostly filled with just pictures of cats. At least, that is what my Facebook feed looks like. I would like to start to change that. I believe that the Internet and social media has allowed us to become creative in ways unthinkable in the past. However, people seem to be wasting most of their time making posts about unimportant things or reading about unimportant things. Storystem.com is my answer to that. Storystem.com allows users to create short stories that their friends will finish. The original author sets up the story by inputting a title, category, and the number of authors that will be able participate. The author will then write the first part of the story. All authors are limited to 250 characters. The author will then share the story with his/her friends through social media (Facebook, Twitter, etc.). An author’s friend can choose to add to the story by writing another 250-character part. The friend then shares the unfinished story with his/her friends. This chain goes on until the number of authors specified by the original author is reached. The original author will be able to write the ending to the story in under 250 characters. When the story is finished, it will be saved in the collections of all the users that participated in the story. They can then re-share the finished story with their friends for them to enjoy. There are an infinite amount of creative, hilarious, dramatic, and action-packed stories that will come from Storystem.com. The best part is that people will be working together to do something creative and fun. The stories that are created will inspire other people to start their own stories and participate in the community more and more. While pictures of cats are great and all, it’s about time that the Internet was elevated higher with Storystem.com.
User Friendly Facebook

Kevin Porter, Brian Memmott (Mentor)

My objective is to create a better user experience (UX), as well as a sleeker user interface (UI), of Facebook’s desktop website. There are roughly five steps in the User Experience Design Process; Discovering, Conceptual Designing, Detailed Designing, Development, and Validating. Traditionally, the biggest chunk of time will be spent in the discovering phase of the process, because research tells you the most of how to achieve a user friendly interface and operation. I am currently conducting usability studies of Facebook’s website by using methods such as desktop screen recording software, which shows me how the user interacts with the interface as well as tell me what they do and don’t like. I am also implementing card sorting tests to see how the users think the interface should be organized. Currently I have found of users ignoring a lot of content on the webpage and a lot of focus on images and names and messages, with little focus on “news” subscriptions” and almost no focus on apps, ads, and the sidebar. This information will be used to help me design and create an interactive mockup that will have a new layout and system state that will result in having more appeal, readability, and functionality to it’s main user base.
**Mintees**

Robert Barber, Eric Lybbert (Mentor)

For my project, I would like to create t shirt designs and sell them online through print on demand websites such as redbubble, zazzle, cafepress, etc. The content for my t shirt designs will be minion parodies. Most of these parodies will focus on current trends. I hope to complete at least ten designs by the conference comes around. I plan on customizing/designing these print on demand website storefronts where possible. I also plan on improving user experience where possible within these storefronts. This project will help me learn and hone skills in design, illustrator, photoshop, html, css, php, javascript, amongst other skills. I plan on using these skills throughout my career. I would like to also implement the use of social media to help market these t-shirts. I plan on paying attention to what is successful and what it not along with learning more about finding success in the world of selling t-shirts.

**Possibilities with Illustrator**

Kelli Sandberg, Eric Lybbert (Mentor)

For my project I am researching tools and different effects that are possible with illustrator. I will then create pieces from what I learn in my research and explore on my own the possibilities with Illustrator. After I create something I will make a tutorial online that people can look up and learn how I made that piece that will be displayed. I chose to do this project because I am researching and learning things myself and then teaching others what I have learned in the process. I want to have 7-9 different posters (small in size like 8.5x11) with a QR code and/or my website that has the tutorial on how I created that piece. All of the posters will have different effects such as cool textures you can create, different types of graphs and patterned backgrounds. When people see these posters and look up the tutorial, they will see how easy it is and I think this will inspire people to learn illustrator and see what they can make on their own. I submitted this earlier but it said it didn’t meet the project requirements so I went to my mentor and explained it to him and he said it sounds fine.

**Professional Behavior 101**

Taylor Ann Barber, Eric Lybbert (Mentor)

This infographic is the research and gathering of information about professional behavior in the work place. Research for the project includes primary and secondary research. Many students will get to the point in their education where they find themselves needing more information about internships, and future jobs. They may be wondered how to write effective emails, what to wear for an interview, or how to treat co-workers. Where can they go for more information and learn how to become a professional? Campus has the resources, and many students just don’t know about them. In this infographic you will show where to find various different tips and resources that can be found on campus to help students learn more about being professional in a work setting. All this information is categorized into 3 different infographics. The first is common questions students have, and where they can go to get more information. Second is professional communication, how to write and express yourself from job applications to once hired and communicating with your boss. This last infographic is professional behaviorism 101, these are professional tips and behaviors one should have when working in a professional environment.
Promote Family Time Around the Table by Creating a Blog

Rachelle Beardall, Eric Lybbert (Mentor)

Around our Table is a project that will be designed to promote the philosophy of the importance of building relationships together. After researching family’s that spend time together eating meals and additional activities, studies indicate that time spent together strengthens relationships and reinforces moral standards. To promote time spent together I have created a blog that is entitled, “Around our Table.” I will write about the importance of building relationships around the table, meals, games, discussions, and other events around the table to strengthen family bonds and create lasting memories. On the blog is an exciting new feature called, “The Traveling Table Project.” Teaming up with Seating Innovations a Company in Utah that sells suspended seating and tables for families, has been willing to place one of their tables in homes which will be called the “traveling table.” Around Our Table wants to capture meaningful moments, and experiences that will be shared on the “Around Our Table,” blog.

SPOT

Dan Ard, Eric Lybbert (Mentor)

SPOT is a unique tool designed to help small to large groups of people collaborate together to find people or items that have gone missing. The integrating power of GPS, Google Maps, and Social Media has allowed this application to be a powerful tool in the hands of those who are in search of the lost. SPOT solves a big problem in today’s search efforts. When something is lost and a group of people are involved in a search, areas will be needlessly searched multiple times because people are unaware of those areas that have already been searched. SPOT also introduces a unique place for a community to gather together to help in contributing to find the missing.
**Cloth Interaction Simulation**

Benjamin Walker, Rick Neff (Mentor)

A cloth will hang over a variety of objects sitting on a plane. Several keys on the keyboard will release different parts of the cloth. When the cloth falls, it will look like an actual falling cloth and will form to the objects that it hits and slides off of. Gravity will have an effect, air resistance will not. The cloth will need to have vertices assigned to each of the points of the cloth. They will have some maneuverability (it will be slightly stretchy) compared to all of the points on the cloth surrounding it, allowing it to bend and collapse with objects as you would expect a cloth to do. I expect the reality of the cloth falling to be realistic and interactive. I’m expecting a different result every run time depending on the timing of the user and flags that he/she sets off in the scene. I expect to discover the math and logic behind collision with maneuverable objects. I also intend to have a grasp on the capabilities that implementation of software such as this on a larger scale can allow for virtual experiments to be set up, aimed towards educational virtual experiments.

**Digital Temperature Sensor Module: DTS-1**

Ron Jones, James Jorgensen, Kyle Nevins, Nathan Hunter, Joel Zegarra, Colby Robbins (Mentor)

Right now, there does not exist an electronic module that easily allows you to monitor the temperature of two items at once and also to have the module control fans in order to cool down the monitored items if they get too hot. In our research we are hoping to create such a module using a microcontroller and other electrical components. With our group of five engineers, with Colby R. as the Project Lead Manager, we will be working to develop a full working module to perform such a task. Some of the design requirements that we have established are to use an LCD screen to display the sensor information in an easy and intuitive way that allows for ease of reading of the temperature data, having the module able to drive fans on each output with a user set thresholds for each channel, to save users preferences with an intuitive menu system, and to have the module in an easy to handle and small footprint design.

**Dynamic terrain and planet creation in computer graphics**

James Richter, Rick Neff (Mentor)

This computer graphics project is an exploration in terrain and planet generation, simulating a space environment that is dynamically generated. Its goal is to determine how to generate planetary terrain at a low fidelity, if it is indeed possible.
**Finite Element Modeling and Characterization of Cantilever Probe Tips Used in Wafer Test**

Levi Hill, Noelle Blaylock, Stevan Hunter (Mentor)

Cantilever probe tips are being used to probe fragile Integrated Circuit pad structures with both thin and thick pad aluminum (Al), with multiple touch counts, and with growing concern about large area probe marks for copper wirebonding. Some experimenting has been done in the past to look at probe marks resulting from various combinations of cantilever probe tip parameters, but it’s difficult to produce probe tips and probing conditions to cover all interesting conditions. Conditions are sought that will provide sufficient electrical contact between probe tip and bond pad aluminum for IC test, while minimizing probe mark damage to the pad. A carefully designed experiment was conducted at ON Semiconductor involving a combination of different probe cards and probing conditions. Probe mark characteristics were measured by various techniques, then analyzed with the help of statistical analysis software. In parallel, probe tip models have been developed for simulations using finite element analysis methods. Models are adjusted to match as closely as possible to the actual experimental data. Through the models, probe tip and pad aluminum stresses are determined for a variety of cantilever tip parameters and bond pad displacements on different pad Al thicknesses. Results of the finite element simulations reasonably match expectations, and permit analysis of additional conditions that were not covered in physical experiments. This research was presented publicly by Levi and Noelle at the international Semiconductor Wafer Test Workshop on 09 Jun 2014.

**Oculus Rift Island Simulation**

Haru McClellan, Rick Neff (Mentor)

I will attempt to use OpenGL, an open source graphics library, Ogre, an open source game engine, and the Oculus Rift virtual reality software development kit to create a simulation of walking around on a randomly generated island. My plan is to build Ogre from source and add my own shaders to support certain effects such as water reflection. I will implement the diamond-square algorithm to create random terrain for the island. Models from blender may also be used to make the island more lifelike. Once the island is formed, I will attempt to integrate it with the Oculus Rift using its software development kit. I am hoping these different technologies will be compatible with each other and allow for flexible simulations to be created without too much difficulty. I am assuming the combination of OpenGL, Ogre, and the Oculus Rift may be too difficult to configure in six weeks and so may omit Ogre and attempt to integrate OpenGL and the Oculus Rift directly if it becomes too much of a setback.
Product Definition for New MEMS Pressure Sensor

Patrick McNamara, Aaron Collins, Joel Zegarra, Stevan Hunter (Mentor), David Christian, Allen Halverson

This project makes use of learning in the topics of integrated circuit product packaging and MEMS design to define a new product that can be surgically implanted to measure small pressure changes inside a human eye. This project includes design concepts and approximate specifications for the packaging materials and geometries to be compatible with the proposed environment. The capacitative diaphragm MEMS sensor is specifically designed for compatibility with the human body environment, with high sensitivity in the range of eye fluid pressures. A required IC is also specified (not fully designed) in terms of the required functionality for operation of the MEMS sensor and communication outside the body, and its approximate size estimated for inclusion into the overall product. The manufacturing processes and sequence are proposed. Specifications for basic test and product qualification are developed. Mechanical modeling of the MEMS device aids in understanding of the operation, and provides a verification of sensitivity in the proposed pressure range.

Random Terrain Generator

Grant Merrill, Rick Neff (Mentor)

The goal is to create a 3D environment where one may walk around and explore in. This is to demonstrate skills acquired in computer graphics. It will demonstrate the skills of rendering images on the screen using OpenGL in C++ and performing different forms of transformation to them. Using heightmaps, a terrain will be generated with an randomly generated number of objects (trees, rocks, water, etc.) on the terrain. Moving around the terrain will be simulated by rotating the scenery around the camera. Obstacles that can interfere with this project are not well known, but that is an obstacle by itself. To simulate a state of environment I will be creating a sky of sorts using a sky box. This would be a viewable sky that will never go out of scope. Lighting will help to create this feeling. Using the skills learned about performance, I hope to create this terrain using an efficient and effective way. If this is all accomplished in a good manner of time and well done, the next goal would be to add in more complex objects (such as people, houses, etc.) that the user (camera) can interact with. Interaction is terms of opening doors, kicking balls, etc. In summary, the goal is to have created an randomly selected terrain, using heightmaps, with objects on the screen and with possible interaction of these objects.

The Fireworks Cube

Kyle DeWeese, Jeff Bickmore, Rick Neff (Mentor), Brandon Johnson, Mackenzie Bodily

The Fireworks Cube is intended to show lighting and shading in three dimensions. We are going to create a cube with a city-scape inside. Users will be able to zoom into the cube and fire fireworks, the light of which will reflect on the buildings and background, and the floor below. We will complete this using lwgl and Java. The fireworks themselves will provide instances of lighting, which will fade over time and distance. This effect will be carried over to other objects located within the scene. As users move about the city, they will be able to see the effects of the lighting and subsequent reflections on the building. This project represents an exploration into the 2-dimensional representation of 3-dimensional lighting, as well as reflections. We anticipate to have the program randomly generate the city, and allow users the ability to create their own shows. We also expect multiple colors of lighting, which will reflect on objects of different colors.
Automatic Mark & Cut

Ronald Cadima, Haarsh Talwar, Alan Dutson (Mentor), Raul Lopez, Matthew Welch

Dawn Enterprises Inc. (heretofore, Dawn or The Company) is a non-profit organization that manufactures clothing items and employs people with disabilities. Dawn uses elastic straps of different lengths and widths for the clothes it manufactures. An economic method of marking and cutting the straps to adjustable lengths, depending on the clothing item, is needed. Currently, this process is done by hand; which slows down production of completed products and prevents them from meeting their goal of 1,000 straps per day. Therefore, a BYU-Idaho Capstone team (heretofore, the team) was given the challenge to develop an economic device that would allow Dawn to meet its strap production goal. The team researched time related to distance, and various methods to automate the process. The resultant product uses motors and an Arduino board to meet Dawn’s goals. The team developed the Automatic Mark & Cut using research, innovation, and past experience.

Barney Buggy

Leland Stanford, Jordan Young, Lance Mortimer, Alan Dutson (Mentor), Andrew Valadez

The Barney Buggy is a Meyers Manx dune buggy that has been modified in order to be driven with hand controls. This buggy has been made for Brother Barney in the Recreational Management department who is a paraplegic. He was injured at the age of 14 in a hunting accident that has left him without the use of his legs and could not drive this buggy before. His father started on building this dune buggy but never finished it, so we have finished this buggy in honor of his father and modified it so that Brother Barney can use it comfortably. Even though this project was meant for him, it was designed to be easily integrated into standard cars for other disabled drivers. The hand control system is also a less intrusive feature in comparison to other models on the market and more economical as well. The hand control system also allows the vehicle to be driven using standard driving procedures (using pedals) without having to change anything, allowing the vehicle to be used by multiple people easily.

Cow Lift

Kevin Dill, Byron Nield, Casey Gullion, Jason McCain, Alan Dutson (Mentor)

When a farmer has an expensive cow, and would like to have multiple offspring from it, the farmer will collect the embryo from the expensive cow and transfer it to a surrogate cow. This process is sometimes tedious, as the cow’s uterus drops off over the bladder the further inside the cow it goes. The purpose of our project is to build a cow lift. This lift will help facilitate the user by lifting the front end of a cow approximately 9-12 inches off the ground and will level out the uterus of the cow. This lift is designed to hold the front end of a cow while the cow is being worked on. The lift is designed to be able to be used in many different settings, either in a clinic or on a farm, or any place in between. The cow lift was built for a faculty member of the BYU-Idaho animal science department and was built by a team of senior engineering students.
Fertilizer Spreader Attachment and Bulk Bed Analysis

Zac Parkinson, Nephan Dawson, John Dalton, Alan Dutson (Mentor)

Logan Farm Equipment is a leading the industry in self-unloading bulk beds which are used in the transport of food products from fields to storage facilities. Logan Farm Equipment is looking for new innovated ways of improving the farming life. Logan Farm Equipment has asked for a Finite Element Analysis (FEA) of a bulk bed to optimize the thickness of a new stainless steel bed which will be compared to a plain carbon steel bed. This will be reported with diagrams and explanation of each diagram for the new stainless steel bulk bed; and comparisons of the original carbon steel bulk bed to the stainless steel bulk beds. Logan Farm Equipment has also asked for the design of a fertilizer spreader attachment to current and future bulk beds this is to allow farmers to go straight from a storage facility to fertilizing their fields. The fertilizer spreader will be loaded from a belt on the bulk bed. A door attachment on the rear door of the bulk bed will control the mass flow of the fertilizer out of the bulk bed. The fertilizer will then be separated to two different chutes from the belt. From these chutes the fertilizer is dropped onto two disks that will fling the fertilizer. Each disk will be rotated by a hydraulic motor which is connected to the current hydraulic system on the bulk bed.

H2O for Humanity Water Truck

Chadron Ryan, Sarah Porter, Alan Dutson (Mentor), Richard Field, James Ahmed

This design project is a water bearing cart, intended to help natives of small villages in India obtain purified water. H2O for Humanity is a low profit company that supplies these villages with purified water at little cost to the consumer. The current situation requires that the people, mainly women and children, walk up to a half mile to retrieve water in quantities that weigh over forty pounds, which can be more than half the body weight of the people bearing them. The first challenge was to build the entire project with an extreme low cost to make it affordable. The second was to make it as simple as possible, and to be able to manufacture the entire cart with easily accessible parts, and hand tooling. Third, all the parts and tools required for manufacturing must be available in India. Fourth, the water cart must be able to pick up the jug from off the ground so as to prevent any need for the operator to lift the water jug by hand.

Ultrasound Probe Assist

Kent Law, Geoff Thompson, Reid McDowell, Alan Dutson (Mentor)

The US is the largest producer, consumer, and exporter of beef. We are a nation that loves our beef. An essential part of meeting the demand for beef is to continue producing more beef each year. To make sure that a cow has become pregnant it has to be checked with an ultrasound probe. Also an ultrasound probe is used to make sure that the pregnancy is going well and to determine the gender of the calf. The ultrasound probe is an essential part of the beef industry and students that want to pursue a career in ranching must need to know how to use the probe to monitor their cattle. The old way of using the ultrasound probe is both hard on the cow and the user. The purpose of the Ultrasound Probe Assist team is to design a device the will hold the ultrasound probe. Building this device will make it easier both for the cow and person, help students learn faster, and make the ultrasound checking process more up to date with standard industry practices.
Underwater ROV

Jared Reid, Michael Cortez, Nate Keller, Zack Nilsson, Mark Norman, Alan Dutson (Mentor)

Our team of mechanical engineers, combined with a team of electrical engineers, has been tasked with developing an underwater remote operated vehicle (ROV). During a previous semester capstone course, the electrical engineers designed and developed most of the electronics that will allow the ROV to move once it is in the water. Our task is to design the housing that will contain the electrical components as well as a possible ballast system. The ballast system will enable the ROV to come closer to neutral buoyancy as well as conserve power while the ROV travels vertically in the water. The ROV must be completely water tight and be submersible up to 150 feet, which results in a pressure of about 65 psi. In other words, the ROV must be able to withstand these pressures without any problems. Ballast systems are most commonly used on submarines and use air compressors to compress air into smaller chambers, thus changing the total volume of air. As the ROV is much too small to fit an air compressor, a tank of already compressed air will be on board to fill two tubes which should, in theory, allow the ROV to get extremely close to neutral buoyancy.

Using physical properties of filaments to design a superior 3D printer hot end.

Andrew Fry, Michael Bair, Marcus Thackeray, Alan Dutson (Mentor)

There are many applications that utilize the technology that has been developed over the past decade for 3D printers. The goal of X-Truding Reality is characterize and log physical properties of various filament materials and hot end designs. A process and program was developed to examine the important characteristics of filament materials and use measured data to create tables that provide information on ideal extruding conditions. Filaments were selected that represent a range of different characteristics and were used to benchmark popular hot end designs against one another. Engineering characteristics and a house of quality are used to gather pertinent information that is crucial in developing a new hot end. With data from initial tests, a new hot end is developed which will perform above industry norms by using less power and retaining a more constant core block temperature. With results collected this hot end will be included a new industry 3D printer currently in development.
Automatic Shifting Bicycle

Jake Hansen, Greg Roach (Mentor)

The bicycling market has room for an innovative method for shifting between gears. After substantial research, it was determined that an automatic gear shifter would suit the needs of a large portion of the bicycling community. Customer needs were identified and translated into specific and measurable requirements. These requirements define success or failure of the resulting product design. The result of our research and design is concluded with an automatic shifting bicycle. This bicycle will smoothly shift between gears with no user input depending on the speed of the bicycle. It was determined from the user needs statements that many users desire to have some level of control over the shifting. To satisfy this desire for control some input is available only to adjust the speed at which the bike begins shifting. This user control was also determined valuable because of factors outside of the bike that can change from one day to another such as wind.

Better with Bread

Keith Cockrell, Ryan Jones, Kenny Hrabar, Gregory Roach (Mentor)

A bread proofer was designed to create a controlled atmosphere ideal for stimulating the growth of yeast ranging from 90°F to 120°F. There is only one other competing product on the market for $150. Market research and concept screening were used to determine customer needs. It was determined that the best design was a collapsible unit that could easily be stored that was a quality product at an affordable price. Our product is designed around a spring steel frame like that found in collapsible clothes hamper. The liner was selected to maintain heat in order to create the ideal atmosphere. The heat source is a heat bulb. Through analysis of our customer needs and prototyping, we were able to design a bread proofer that creates the ideal atmosphere to stimulate the growth of yeast at a more affordable price for the end user. It also serves as an excellent source for warming and maintaining temperature for other food products.

Compact Portable Grill

Erica Crampton, Nick Barsalow, Andrew Ward, Greg Roach (Mentor)

The purpose of this project is to design and build a compact portable grill. An opportunity has been identified in the current market for a compact portable grill that has even heat distribution and is easily compacted and portable. Customer needs were identified and engineering characteristics defined to allow the design team to design a product that satisfies those customer needs. Several concepts were generated for the design of this product. After concept generation was completed, a systematic approach was taken to combine innovations found in individual concepts throughout the concept generation process. The leading concept was then determined based on what concepts best meet the customer needs. This concept was then developed into a detailed design and final product. Several prototypes were built to refine and improve the final design. This research is significant because customers living in small living spaces that enjoy grilling need a quality grill that requires little storage space.
Finishing Clamp

Andrew Woestman, David Sanborn, Greg Roach (Mentor)

Our product is a cabinet finisher’s clamp. In Industry cabinet makers have lots of needs for clamps that won’t ruin the finish on the clamps or hook to anything on the outside of the cabinet to not get in the way. The idea is to create a clamp the will be supported on the inside of the cabinet and then through an arm be able to clamp a piece of wood into place that needs to be connected to the cabinet. The idea is to use a vacuum suction cup on the inside of the cabinet. This will give the stability necessary to support the clamp. In the industry right now there is only one company that makes a finishing clamp for cabinets and they are made in Germany and cost around one hundred dollars. This gives a huge market opportunity here in the United States. It will also be able to be used by anybody that wants a strong clamp that won’t leave scratches on its surroundings. We will need something to hold up a poster.

Honey Harvesting Systems

Josiah Waite, Greg Roach (Mentor) , Eddie Kraft, Dallin Hildreth

For centuries, beekeepers around the world have harvested honey by extracting honeycomb from beehives, cutting off the wax caps that bees produce to hold the honey in, then spinning the honeycomb to force the honey out. This is often a long and messy process. The objective of the Honey Harvesting Systems team was to accelerate that process by improving the tool or method used to cut the caps off the honeycomb. In order to do this, the team went to beekeepers and asked what they would want in a cap removal tool. They used the beekeepers’ input to come up with dozens of ideas for new cap removal tools, which were eventually narrowed down to one idea. That one idea is what the team designed and built. It was a long process that included multiple prototypes and various tests to determine how to make the best product for the customer. The end result was a product that allows the average beekeeper to uncap his or her honeycomb faster and easier than other products on the market.

Natural Rise

Aaron Albrecht, Cameron Smallwood, Joseph Temus, Eli Edwards, Greg Roach (Mentor)

For many people, waking up in the morning is a battle. The Rise team set out to create a customizable system that gently awakens users and reduces sleep inertia (time to feeling fully awake). The first step was to determine what methods could be used to awaken users. Through interviews, surveys and market research, sound and light were discovered to be the most favorable. Concepts for different control and delivery methods were generated by the team based on the customer feedback. The concepts were reduced to a single design that would be centrally controlled by a phone app and a single base feature with several add on features. 6 prototypes were built at various stages in development of the different features. Environmental risks were assessed and mitigated. A final design was chosen and built with accompanying assembly drawings, instructions and bill of materials for production purposes. The result was a system that each customer could use to cater to their needs for waking in the morning as gently as possible while reducing sleep inertia.
Second Wind Energy Solutions- Vertical Axis Wind Turbine

Taylor Larsen, Andrew Vidmar, Greg Roach (Mentor)

Second Wind Energy Solutions is a team consisting of four undergraduate Mechanical Engineers working on their junior design project. The Second Wind team has taken on the task of designing and building a vertical axis wind turbine (VAWT). The fully functional wind turbine allows for households and businesses to reduce utilities costs as well as store energy to be used as needed. Vertical axis wind turbines are ideal for residential and business applications because they can generate electricity from wind blowing in any direction. Commonly used wind turbines have problems with having to change direction in order to optimize the amount of energy produced. The team will have constructed and manufactured a full scale vertical axis wind turbine. The team is planning on presenting their full scale model with a live demonstration. The team will also emphasize the design process, displaying prototype and proof of concepts from the early stages of design.

Shower Power

Andrew Bayba, Weston Dunn, Rob Talbert, Greg Roach (Mentor)

Our project is a redesigned shower loofah. We wanted to design a loofah that would hold soap for multiple uses in a comfortable and simple way. We also wanted to eliminate the need to grab soap and a loofah every time someone showers. We used concept generation to brainstorm ideas that ranged from futuristic to the most basic. From this large list of concepts we narrowed it down using concept selection that involved market research, focus groups and matrices for cross comparison. We used prototyping to design and redesign what we considered plausible options to test the feasibility of each project. We found that the more simple the final product the better chance it would have in market to compete against the original loofah. Simplicity was key and at the heart of our design. Though our final design is not complete at this point we want a product that has a reservoir of soap in conjunction with a loofah. We do not want the reservoir to be intrusive or cumbersome and our final product will reflect this.
Automatic Transmission Diagnostic Process
Isaac Scott, Justin Miller (Mentor)

Automatic transmission diagnosis is often an intimidating part of automotive work even for experienced technicians. Part of the reason for this is a lack of familiarity and resources. This presentation is to aid technicians in the diagnosis process through simple steps and familiarize them with the operation of an automatic transmission, common faults, and tests used to determine the cause of failure. The first step in the diagnostic process is to verify the problem then identify what it is and under what circumstances it occurs. Common faults are; slipping, delayed shifting, no shifting, no engagement, and lack of power/economy. Proper function of the transmission depends on proper function of the engine and certain sensors. Once a problem has been identified proper function of the engine must be verified. If there is a diagnostic trouble code (DTC) or the engine is not running well the engine fault must be corrected first before diagnosis of the transmission can continue. After all faults have been corrected, the remaining transmission fault must be identified as either electrical or mechanical, and internal or external. Through a series of tests that will be presented in a logical flow to narrow the cause of the failure to a specific component. A few of the most common causes of failure are; low fluid pressure, worn clutches, failed bearings, weak or broken seals, or dysfunctional sensors and their circuits. Through the use of this chart and presentation it is hoped that the diagnosis of automatic transmission will be less intimidating to technicians. As technicians familiarize themselves with the system and tests used in this procedure diagnosis can be done more efficiently and accurately, increasing the shops productivity and providing greater customer satisfaction.

Is there an alternate source of energy for fossil fuels?
Colter Oakey, Justin Miller (Mentor)

If we could look at the list of issues that the President of the United States is dealing with currently, we would surely find somewhere on that list the “energy crisis.” It is regularly talked about in economic discussions on television. It was discussed in the most recent presidential election, and it is even proposed by some to be the instigator of wars and conflicts between nations. To look at a pie chart depicting the areas of consumption of our current energy source, namely crude oil, transportation takes up a majority of the pie. This is why there is an exciting race happening right now between ALL automotive manufactures to find alternatives to fossil fuel for the power of our vehicles. They are asking themselves things like what is most affordable, what will be most clean and safe for our environment, how readily available is it, will it meet the expectations of consumers, and can we make it fit into a car? My research will explore the most promising technologies currently being researched and will analyze each according to the qualifying questions mentioned above. The research will include bio-diesel, ethanol, compressed air, fuel cell technology, electricity, and hybrid combinations of these. I will help people to better understand the constraints engineers are facing, and perhaps, what is the most likely future.
Pipeline Overpressure Protection Device

Andrew Ward, Erica Crampton, Russell Daines (Mentor)

In the field of fluid mechanics, a pressure reducer was designed to protect pipeline systems from becoming overpressured. Oil pipelines that have been overpressured are at risk for failure which potentially results in harmful environmental impacts and legally requires the company to make very costly and extensive repairs regardless of whether or not the pipeline failed. The design for the pressure reducer is based on Nikola Tesla’s valvular conduit design that uses the momentum of the flowing fluid as a means to restrict flow in one direction and allow free flow in the other direction. Instead of functioning like a check valve in the way that Tesla’s design works, the concept designed and tested in this project functions as a high pressure protection device. The design allows low pressure fluid to flow unrestricted, but, above a certain threshold, reduces the outlet velocity to within safe operating conditions. Following the design of this concept, the first prototype was cut from machinable wax using a computer controlled (CNC) mill. The prototype was designed such that the rate at which the velocity increases is lower with the pressure reducing components engaged without. The pressure in oil pipelines can be controlled in such a way as to allow for this design to act as a passive overpressure protection device. The results of this research provide a means to protect oil pipelines from dangerous overpressure situations.

STOP/START SYSTEMS

Paul Grate, Justin Miller (Mentor)

In the Automotive world today the demand has never been higher to have cars that produce lower emissions with higher performance. One system is called a Stop/Start system. This system helps to lower vehicle emissions while saving gas. With this new system, when your car comes to a complete stop your engine shuts off. Then as soon as you push on the gas the car will immediately turn on and go as if it was never off. This new system has already been put on cars out on the road today. In the coming years this system is planned to be on almost all new models coming out. I would like to present more in depth information at this conference to help inform people of this new system that may be on the next car they buy. Also to show that the automotive program here on campus and in the world is not just about greasy hands and turning a wrench. Thank you for your time and consideration.
3D Asteroids For Android

Matthew Hatch, Richard Grimmett (Mentor)

Applying the concepts I have been learning in Computer Graphics I am developing a 3D version of the classic Asteroids game for Android devices. I will be utilizing shaders and the OpenGL graphics library (more specifically OpenGL ES 2 for Android) to write code that will then be rendered on a Graphical Processing Unit to display the graphics for the game. Research includes learning about and mastering graphics concepts that includes vertices’s, projection matrices, rotation matrices, scaling matrices, pixel mapping, clipping, and displaying 3D looking objects in a 2D space. It also includes learning how triangles, the most basic polygon, are created and used to create other more complex polygons such as squares, cubes, spheres, pyramids and other desired shapes. It also involves the learning and application of pixel colors and using differing amounts and combinations of Red, Green, and Blue color values to produce different colors and shades of such colors as well as manipulating the lighting of a scene. In addition creating different gradients by through the interpolation of multiple color values. I have been learning about and will continue to learn about the use of these concepts in both an abstractly as well as within the concept of OpenGL. I have decided to build a 3D version of asteroids because it will require me to apply all of the above mentioned concepts and more.

3D Navigable Environment

Ben Mauriala, Richard Grimmett (Mentor)

I will be programming and modeling a 3D environment that can be navigated through using the keyboard and mouse. The keyboard will provide controls for moving forward, backward, left, and right, relative to the current orientation. The mouse will provide orientation controls such as turn left, turn right, look up, and look down. Such applications have use in training for environments and scenarios where being physically present may be hazardous to those involved. Such environments include radioactive environments, live fire scenarios, disaster zones, and even surgery. Similar 3D applications can also be used where actual training would be prohibitively expensive using real-world resources. This includes flight simulators for astronauts and pilots. Outside of such training, these applications can also aid in creating more engaging environments for students. For instance, the modeling of historical events can enhance students’ understanding and appreciation of material that may otherwise be considered temporally dissociated and therefore uninteresting. With the recent rise in development of more immersive 3D technologies, such applications are becoming even more capable of producing realistic simulations.

3D Visualization of Mailbox Permissions

Schuyler Summers, Jacob Stevens, Richard Grimmett (Mentor)

We are looking at making a 3D graphical representation of permissions between mailboxes on an email server. The users can be grouped together, highlighted, and viewed from different perspectives. We would also include the ability to select a person/node and see how they connect to other people.

Complete 3D Environment Example

David Donley, Richard Grimmett (Mentor)

For my Project, I plan to create a 3d environment that will include a landscape. The camera will move forward and backwards though the landscape. It will also look up and down when commanded to. The landscape will be one of my choosing. It will be between an outdoor environment and an indoor facility. The environment will change color according to how light it is outside, or inside the facility.
Computer Graphics Project

Kyler Hinton, Richard Grimmett (Mentor)

My project will be re-creating a zone or a scene from the computer game Everquest. The textures will be mapped and created to look as similar as possible to what was created in the original game. This will be using fragment and vertex shaders in order to access the GPU in order to take advantage of the graphics processor. This project will be creating terrain that is mapped using a heightmap, which will give the terrain the look of changing in height and direction. There will also be a camera that can be controlled to overview the terrain. This will be created using lightweight java OpenGL. This project will show skills based upon rendering graphics. The graphics will be simple but very complex in nature. Knowledge will be demonstrated on the basis that rendering and using OpenGL libraries has been developed and the skills to produce greater projects is capable. The IDE that will be used to create the project will be NetBeans.
Digital Observation Guidance System(Autonomous Robotic Car)  
Stephen Gullerud, Quinn Stratton, Richard Grimmett (Mentor)  
Our project is an autonomous mobile platform that will utilize stereoscopic object detection and tracking to navigate any course it is placed in. It will be able to 'see' objects that are either stationary or in motion and navigate around them without crashing. With the stereoscopic vision the robot will be able to detect and avoid many types of objects as well as range to object. Among them are ledges it could fall off, dead ends, walls, and people who are walking around in it's way. The robot will be intelligent enough to make decisions that will bring it closer to its goal instead of farther from it. In addition to the stereoscopic vision, the robot will utilize IR sensors to simulate spacial self awareness so that it will not crash into walls or people while turning. We will use iterative programming to find bugs, optimize performance and decipher the images coming in from the two web cameras. The robot will also have a speaker that will be used for debugging purposes and comic relief.

Hide & Seek Autonomous Robotic Cars  
Eric Gubler, Tim Hayford, Jordan Bohne, Dustin Divis, Richard Grimmett (Mentor), Jonathan Castellanos  
Two autonomous robotic cars will play hide and seek with each other. One robot will drive away and "hide" while the other robot "seeks" to find and tag the other car. After the robot being sought is caught the two robots will switch roles. The robots will communicate their positions to each other via Bluetooth through a central computer. In addition to chasing each other the two robotic cars will also avoid obstacles, such as walls.

The Animal Generator  
Michael Muse, Ryan Humbert, Richard Grimmett (Mentor)  
Our project is going to be a mini generator that is powered by a hamster running around in his wheel. The wheel sits on the crank of a mini motor and as the wheel spins it will turn the generator and generate voltage. It will be small enough to fit on top of a table and the output of the generator will power a small LED tree. We will have a hand drill with a large circular attachment that will sit in the wheel and that will turn the wheel for our presentation so we don’t have to actually use a live hamster. This project can be easily scaled to match larger needs, such as powering house lighting in rural areas or powering small appliances for better quality of life.

Autonomous Golf Bag Cart  
Shane Herd, Jef Funk, Richard Grimmett (Mentor)  
This project is an Autonomous Golf Bag Cart which will follow a player around. The player will communicate to the cart via a smart phone in his or her pocket. The phone will give the cart the player’s location and the cart will travel to that location. Once the cart has reached a specified distance from the player, the cart will stop. The player can approach the cart without the cart moving away so that the player can store or retrieve his or her clubs. The cart will also remain off of the green when the player walks onto it. The cart will also avoid obstacles such as trees, bushes, bunkers, lakes, greens, players, and other carts. If an obstacle is detected, the cart will travel around it and then continue on its way towards the player. For example, if the player walks across the green, then the cart will travel around the green and then continue towards the player. The smart phone which is sending the signal to the cart will also have an app which the player can use to do extra commands such as manually controlling how the cart will drive.
Flywheel Energy Storage
Mark Moser, Richard Grimmett (Mentor)
Due to the unreliable nature of renewable energy there is a need to store energy for use at different times. By storing excess energy it can make the power grid much more reliable, and able to harness energy it might otherwise not be able to. A flywheel is one such energy storage system. A heavy wheel is turned by a motor to "charge" it so to speak. It is spun up to high speeds when there is excess energy, storing the electricity as mechanical motion. When the energy is then needed the heavy wheel's momentum is used to turn the shaft of the motor thus generating electricity. Flywheels are used in systems like the power grid or even vehicles. This project will look at the efficiency of a small scale system and relate that to larger systems. Other important considerations are cost, ease of implementation, and the needs of the system.

HVDC transmission line
Tenzing Sherpa, Joel Zegarra, Patrick McNamara, Richie Moreno, Richard Grimmit (Mentor)
Ever since Tesla (AC) won over Edison (DC), AC transmission lines have been used throughout the history of energy distribution. AC transmission has been successful in the transmission of energy, with less (I^2 * R) power loss by stepping up the voltage with the use of transformers. But AC lines have their shortcomings. For one, they have high inductance over very long transmission lines, they also require a 3 phase structure which turns into expensive construction cost. Recent studies show that HVDC (High voltage Direct Current Transmission) lines are more effective and save more money. Our research shows how HVDC is a better choice over AC transmission lines. Although AC transmission might have dominated in the past, HVDC is the future.

OpenCL Particle Simulation
Alex Barney, Richard Grimmett (Mentor)
I will be exploring particle simulation on the GPU. OpenGL will be used to render the particle simulation, and OpenCL will be used to do the physics for the simulation. A standard CPU can be used to do the particle simulation, but it will do it at a relatively slow pace. A GPU can do many parallel calculations, so a speedup of 10x-500x can be attained in many situations for various calculations. This simulation can model many different situations. For instance, it can be used to model objects in space. It could model a cloud of bodies and simulate how they form into different clusters or shapes in different situations. This can be used to view situations that might have occurred in the early stages of the universe, or when galaxies or solar systems formed. It could even be used to simulate the current systems in our universe today such as our solar system.
Power Engineering Monitoring and Protection

Rob Wall, Richard Grimmett (Mentor), John Cenicola

In a power systems world, there are three main areas of focus: generation, transmission, and distribution for consumption. Generation specialists must consider how to produce efficient energy. Power transmission engineers need to transfer large amounts of power with as little loss as possible. Power Distribution Engineers must consider how best to deliver power to consumers. This project allows live modeling of all three focus areas to be simulated. For a power system to properly function, three factors must be synchronized: voltage, frequency and phase angle. All these factors must be taken into consideration by the power systems engineers or potentially life threatening threats could be designed. With the use of an industry standard SEL-421 Protection Automation Control, all these parameters can be monitored and controlled for the three areas of focus for all the engineers. This power systems model allows engineers to simulate different situations with real, but safe, power levels. Different line impedances help transmission engineers know how to design their lines efficiently. Varying loads allow distribution engineers to deliver reliable power. Voltage and frequency differences in the model allow generation engineers to produce energy in compliance to the rules established by the Western Electric Coordinating Council (WECC) and North American Reliability Corporation (NERC). Faults are also a difficult challenge to overcome for all engineers and can be monitored and controlled by the SEL 421.
RF semiconductor test on SRAM wafers

Manuel Cuevas, Richard Grimmett (Mentor) , Michael Rowe, Mark Norman

This project develops capability at BUY-Idaho to make semiconductor measurements on IC wafers, through collaboration with ON Semiconductor in Pocatello, ID. This development will provide opportunities for future science and engineering students to learn to do tests on semiconductor wafers, on projects, and in preparation for jobs in the industry. Development of the RF measurement capability is of particular interest as a specialty for BYU-I electrical engineering students. This test consists on developing a semiconductor test on SRAM wafers dies named 10511 and 1514. Semiconductor integrated circuits (ICs) are formed on substrates, such as silicon wafers, and typically comprise a variety of basic electrical components, such as transistors, resistors, capacitors, and the like. Once the wafer is completely processed, it is cut up (diced) into the individual chips (die). It is desirable to verify that such integrated basic components are fabricated according to a design specification and have certain properties or values, e.g., a specified gain, resistance, capacitance, etc. An individual component cannot readily be tested, however, once integrated into a circuit. As such, it may be assumed that the parameters measured for the target components are similar to those of the non-tested integrated components, and it is therefore appropriate to apply the test results for the target components to the integrated components. During in-process electrical testing, a signal source usually external, is electrically connected to the stand-alone target component to be tested. Electrical connection is typically effected by microprobes between the DUT and the measurement device. Our purpose of the test is to target the die component with electrical connected pads by using microprobes to contact the pads. We would electrically connect the signal source and measure the device to the target component. The test is typically used to measure various response or performance parameters of the target component and parameters that characterize the response of die. We would design a method to suitable test DRAM chips and other integrated circuits (ICs). The test would implement test structures for RF integrated circuits. The test would be divided in a performance and reliability test. The performance testing would monitor the cycle time of a memory, which is the speed at which data can be accessed from the memory. This consists of loading of the address on the latches, subsequent decoding and data access and data output. The data access path can be monitored as a delay chain or as a ring oscillator. Such a test circuit provides a vehicle to monitor the memory performance. In addition, we would do a reliability test including RF sensitive measurement. This process would test the limits of the device specification to measure the effectiveness and reliability of chip. The following are some examples: a.) voltage stress b.) low voltage operation c.) high voltage operation d.) operating frequencies above specification requirements e.) operating frequencies below specification requirements on power devices We would include an amplifier and oscilloscope so that the actual sensing circuit of the SRAM can be monitored for manufacturing variations. During the tests, the applied voltage is increased in steps until reaching the maximum passing voltage. This test is to demonstrate the safe operation capability of the chip. This development will provide opportunities for future science and engineering students to learn to do tests on semiconductor wafers, on projects, and in preparation for jobs in the industry.
Solar Powered Charger

Megan Woodland, Richard Grimmett (Mentor)

This project consists of research done on solar powered systems to show some of the benefits and pitfalls of using it in the world today. Solar cells will be used in order to charge something such as a phone without the use of any other source of power. It will help to better actually show what some of the benefits and downsells are. It will also help to better show what we can do with it, especially in emergency situation. I want to provide an option for people to be able to charge necessary items while camping, especially if an accident occurs. It will show how solar panels have to be connected in order to have both enough voltage and current in order to provide enough power to actually charge a cell phone, and provide information on how solar panels are created, their life span, and if costs are worth the benefits.
**Holly Golightly: The Anti-Absurd Heroine**

Lee Gibbs, Elaine Hawker (Mentor)

Truman Capote’s novella Breakfast at Tiffany’s has long been examined as a character sketch of a wanderlust-filled femme fatale—an American version of Christopher Isherwood’s Sally Bowles. However, critics have disagreed on the cause of Holly’s rootlessness. As Ihab Hassan noted in an early review of the novella, "there is no revulsion against one’s identity, no holy surrender or unattachment. Holly is in fact very much attached to this world, and therefore to herself" (80). From Hassan’s view, Holly’s abandonment of New York to go to Brazil is a result of her attachment, not her inability to connect and disclose her true self. In a more recent review, Bede Scott turns this argument on its head, arguing "that as a character she shares (and indeed determines) many of the novel’s lighter qualities—attaching supreme value to ‘the surface of things,’ . . . and actively pursuing the freedom and mobility of non-meaning," and that her greatest fear is "having her identity rendered stable and finite by the enforced ascription of meaning" (139). In light of both these arguments, Capote’s characterization of Holly Golightly at first seems paradoxical: she desires to pursue mobility and non-meaning even as she is very attached to the world. However, these qualities create the true stance of the novel. Breakfast at Tiffany’s at once argues that freedom—when defined as rootlessness—is necessary for true happiness, and that this definition of freedom is inherently flawed, as it is impossible to float through life and not make connections of some kind. Golightly's pursuit of non-meaning is futile because of her self-attachment; as a result, Holly becomes the antitheses of an absurd heroine: she is unable to remove meaning from her life.

**I Am Xitlali**

Christian Barreda Huerta, Zachary Johnson, Gianfranco Fernandez Ruiz, Karen Holt (Mentor)

A collection of four poems inspired by the value of variety, the importance of culture, and the effects of prejudice on social identity. The pieces are not limited to one person's experience, but are accessible to many. We came together with distinct experiences in order to present a unique collaboration of cultural perspective. It was important for us to focus on the idea that people no longer look inward to define themselves but instead rely on others to decide their worth. The poems will be spoken word accompanied by visual and sound effects.

**Inspiration in Iniquity: The Sexual Dichotomy in Joyce’s Portrait**

Zachary Johnson, Scott Cameron (Mentor)

This research focuses on how Stephen Dedalus’ sexual addiction leads him to confront his faith in God and his responsibility as an artist in James Joyce’s Portrait of the Artist as a Young Man. The purpose is to examine how the Catholic God serves as the antagonistic half of Stephen’s artistic muse, and how the young man finally breaks free of his perceived prison at the Catholic school. This goal is accomplished by focusing on Joyce’s use of binary opposition to compare sin and spirituality as dichotomous halves of a whole. When Stephen first indulges his sexual appetite with a prostitute, the details of the encounter resemble the young man taking part in a religious ceremony. Like he would to the Virgin Mary, Stephen bows his head to the prostitute, surrendering himself to her. She offers up a divine sacrament—her body—to which he will communion with, much like he will with the transubstantiated offerings of a Catholic Eucharist. As Stephen continues to satisfy his lascivious desires, he simultaneously wishes to absolve himself of the sin. Yet this challenges his ability to create his art as he sees fit. He feels stifled by Catholic morality and its perceived limitations on the creative spirit. He reasons that he must break away from the Catholic Church in order to practice his art freely and openly; yet he cannot escape the influence that God and the Church has had on his mind.
Super- and Natural Manipulation: Magic in Macbeth and The Tempest

Zachary Johnson, Scott Samuelson (Mentor)

This essay focuses on the use of magic in Shakespeare’s The Tempest and Macbeth. The goal is to contrast the Weird Sisters’ supernatural magic in Macbeth with Prospero’s natural magic in The Tempest. This purpose is achieved by examining the sources of magic in the two plays, with specific emphasis on the symbolism of physical objects that the characters use to manipulate their environments. The Sisters’ control over Macbeth is not quite clear; as the play is a tragedy, it can be argued that Macbeth is the sole decision maker in his fate. Regardless, the Weird Sisters use a cauldron, which J.E. Cirlot suggests is the antithesis of the skull: the cauldron represents irrationality and Fate scorned (forces of supernatural magic), whereas the skull symbolizes rational thought and the natural world. Macbeth has use of his skull in the beginning of the play, and displays many of the characteristics of one of Shakespeare’s classic heroes; yet, he submits to influence by the cauldron, thus forfeiting his chance for greatness. Prospero’s magic originates from his skull. In Milan, he studied so much that he was deposed as Duke. His magic is natural because it comes from his knowledge. When he gets to the island, he encounters a different kind of magic; it may be supernatural and therefore malevolent, but Prospero does not submit his rational thought to irrational actions. His purpose, though initially unclear, is virtuous, and his methods, though suspect, ultimately allow him to abjure the baser magic of the island and embrace the natural magic of wisdom.

The Boy Who Cried Wolf

Jason Godfrey, Jeff Smith, Joshua Abegglen (Mentor), Joshua Allen (Mentor)

Our project, “The Boy Who Cried Wolf” is an original retelling of the classic fable of the same name. It uses a technique unique to contemporary fiction called defamiliarization in order to tell a more complex tale than simply bad things happen to bad people. We tell a story of a lonely shepherd boy who turns to a wolf for social affirmation only after all other sources have failed. The story is being crafted by Jason Godfrey under the supervision of Brother Joshua Allen. The artwork is being illustrated by Jeff Smith under the direction of Brother Joshua Abegglen. The final product will be a book targeted to children between the ages of three to seven. It will distributed in .pdf and other mobile formats. The artwork will reflect the same defamiliarization through the use of subtle symbols and stylistic changes as the story progresses from the familiar fable into the new story.
**Considering the Likelihood that the Cosmos are a Computer Simulation**

Ashley Schellhous, JP Sloop (Mentor)

This prose poem explores a night in the mind of a young adult struggling to come to terms with world around her through the lens of a dissociative disorder. She interprets the strange and unusual as evidence of a computer simulated reality, disconnecting herself from the outside world as well as her own body.

**Epic(ish)**

Anna May, Kendall Grant (Mentor)

Mella has always longed for an adventure. She could be a hero, she knows, if given the chance. She wants nothing more than to be like the characters in her books: brave and strong and surrounded by friends and magic. So when she and four other students at her high school are transported to Celavoc, she’s thrilled. At last her dreams and wishes have come true...except for one thing. She’s not the chosen one. Mella is heartbroken to learn that she is not marked for greatness by the Goddess or part of the prophecy. It’s all been a mistake. As she watches Soccer-champ Gary; his beautiful girlfriend Reina; quiet, hulking Connor; and the mysterious girl known only as K gain highly cliché powers and gifts, she refuses to give up on this one chance to make a difference. Amid magical spells, bandit attacks, growing tension within the party, and way too many clichés and plot twists, Mella sets out on the quest of a lifetime, to help fight evil, save the kingdom, and maybe be a hero in her own way. Epic(ish) is a full length Young Adult Novel.

**Father Son Relationships in Pulitzer Prize Novels**

Toben Racicot, Karen Holt (Mentor)

This paper examines through a psychoanalytical lens the relationship between father and son in two recent Pulitzer Prize winning novels: Tinkers by Paul Harding and The Road by Cormac McCarthy. In order to determine which relationship is deemed to be healthiest, based on factors discovered by psychiatric and family development experts, I compare the relationship between Howard Crosby and his son George from Tinkers to the man and the boy in The Road. To create a set of criteria, articles by Jon A. Shaw and Edgar C.J. Long, Jessica N. Fish, Apryl Scheffler, and Brianna Hanert were used to analyze elements of each relationship from the Pulitzer winners. The relationship between the man and the boy in The Road is the healthiest based on what Shaw and Long et al have found through research because the man takes care of the boy to the utmost, ensuring his every need is taken care of. Examination of these elements will hopefully lead to a better understanding of how the relationship between a father and son is portrayed in fiction and how that is related to readers.
The Siege of the Latrine

Tayler Bingham, Mark Bennion (Mentor)

This is a work best categorized as creative nonfiction. It is a short story piece that follows my own personal adventure as I travel towards the international haven of Canada. As a young boy, this was the dream. However, as the journey begins, it becomes more than just a journey, it becomes an adventure. I chronicle the events and the crazy situations that lead to me ending up locked inside the bowels of a one man latrine on the side of the road just past Driggs, Idaho. But the journey doesn’t end there. I discuss in great detail the thoughts and mindset I had while locked inside that latrine. Furthermore, the chronicle continues with the best part of the entire story: the description of my eventual victory over the latrine and my releasing back into the world of light. But this is not just a story of one man’s, my, experience, it is the tale that highlights my view of man’s inherent love for one another.

Writings of a Serial Killer

Sarah Lofgren, Karen Holt (Mentor)

In this compilation of flash fiction stories, I explore frantic and surreal scenes involving a serial killer. The main idea behind this piece is to relate mundane and boring tasks to a murder while also putting a spotlight on the thoughts of the murderer. Around a year ago, I was inspired by my friend who was doing a project which involved using Spanish to make certain tasks interesting and she mentioned watching paint dry. In a moment of jest, I suggested “what if someone was watching paint dry because a killer just painted over blood?” From there, using the five senses, I have crafted scenes that grow increasingly vivid while also being purposely ambiguous about the murderer’s identity. Through contrasting paragraphs, the observations of the boring task is compared with the description of the murder, emphasizing how one is redundant and the other is violent. As the piece continues, the killer gains more childish interaction with the victim as the murders grow more elaborate and the serial killer becomes more unsettled. With these pieces of writing, I want to reflect on the darkness within human beings as there is a killer in us all, but only a few unleash it upon the world.
Cuando Dio Luz: To Give Light

Gianfranco Fernandez Ruiz, Jack Harrell (Mentor)

In the Dominican Republic the phrase used for giving birth is "to give light." A child is a rite of passage for men to become fathers. They give parents the opportunity to, in a way, restart--to give a fresh beginning, and it is only possible because of women. This piece is a reflection of my time with my wife, and what we bring to each other. Our heritage plays a role in this. This is, in my experience, why I decided to write about this. I considered how my Dominican background has played a role in my beliefs and my relationship. It is a story of hope. My experience isn't mine alone. We have all had our backgrounds and upbringings affect the way we view the world, and consequently affect the our children's view of the world. This story, my story, is a piece of my history, but resonates with the human condition.

On Asthma

Bradley Medina, Eric d'Evegnee (Mentor)

"On Asthma" is a personal essay about my struggle with asthma as a child. In this essay I explore my fears of living a life with asthma and the possibility of it being the cause of my eventual death. I highlight a few of my experiences that contribute to my past and current feelings about my disease, as well as how asthma has influenced my life. I begin my essay by describing asthma in terms of what it is and how it is the cause of thousands of deaths each year. My fear of dying from an asthma attack later in life only contributes to part of my feelings towards asthma. The other aspect of asthma that I address is the feeling of insecurity that I experienced when I was younger. Not being able to do what other kids my age could without needing medication made me ashamed of my disease, causing me to hide it from others. Through certain experiences however, I have learned to accept my asthma, and all that comes along with it, as a part of who I am. Asthma is still a part of me, but it no longer holds the influence on my life that it once did.

Society or Self

Sadie McKee, David Ward (Mentor)

Kate Chopin deals with women’s role in society in her works, “The Story of an Hour”, The Awakening and “A Respectable Woman”. This essay will explore the value of analyzing feminism in writing. This essay deals with the patters Chopin has establish between her female protagonists, Mrs. Miller, Edna, and Mrs. Baroda. Particularly it looks at the interplay between society and individuality for women. It will look at the way Chopin’s characters are defined by society. Further, it will explore how these characters experience heightened emotional experiences which influence their perspective on social roles. It will look at how Chopin exposes marital relationships as unhappy and restrictive for women. In addition, this essay will look at the intimate relationships these women experience and the influence those relationships have on their self discovery. Finally, it will look at the acceptance or rejection of these social roles while exploring the impact between society and individuality and the outcome of such conflicting pressure on each of these female protagonists.
Bishop Latour’s Cathedral has captured the interest of many literary scholars for its symbolism and what it reveals about Bishop Latour. “The Cathedral is near my heart, for many reasons,” Latour tells his friend, Father Vaillant (243). Ann Moseley and Melissa DeFrancesco both argue that the Cathedral’s particular blend of New Mexican rock and French architecture show that the Bishop is able to help create this New World through the composite art that symbolizes the mix of cultures in his diocese. However, most literary scholars have not examined the ironic similarities between the Cathedral and the old Acoma Church, which Latour views with such negativity. While Moseley and DeFrancesco see the Cathedral as a positive achievement on the Bishop’s part, I argue that Latour’s attitudes toward both his Cathedral and the Acoma church shows that he has hidden European prejudices that prevent him from building a truly New Mexican Cathedral for his people. One example is seen through Bishop Latour’s condemnation of the Acoma church’s builders when he says, “They build for their own satisfaction, perhaps, rather than according to the needs of the Indians” (101). However, Latour also builds a Cathedral for his own satisfaction, and, as Julie Williams points out, “impresses himself on the landscape” rather than leaving no trace according to the way of the Indians (16). This, together with the other ironies of Latour’s attitudes, reveal a man who, while good, still has ambition and prejudices near his heart.
Performing and Visual Arts
Performing Live, Live Performance
MC 266 Seating/Dining, 02:00 PM to 04:00 PM

A Perfect Chaos

Wendy Bone, Danielle Bush, Teisha Hamberlin, Wendy Bone (Mentor), Katelyn Ferraro

It started in 340 Modern class where were we instructed to do an art-o-graphy project based from a specific style of art. We were divided into groups of three and were each given a style that we were to pick a painting from and then create a choreographed piece that envisioned that painting. Once each group performed their choreographed piece, our teacher and mentor; Sister Wendy Bone, then chose three groups to submit their pieces into the Creative Works Conference for judges to critique, enjoy, and experience. We were given the style of surrealism and we chose a painting called, A Perfect Vacuum by an Australian artist named Jeremy Geddes. The girls involved in this piece are: Teisha Hamberlin, Katelyn Ferraro, and Danielle Bush. We decided to call our piece, A Perfect Chaos, because we wanted to tell a story from three different points of view within the same person. We wanted to share an outrageous experience through the eyes of a little girl, a teenager, and an older woman. When we first looked at this painting, we instantly thought of the chaos that was happening out the window. We were thinking of a natural disaster happening and what would this person be experiencing at this moment in time. We decided to let the audience imagine the normal lives of these girls and what happens when it goes from real to surreal. We wanted to show to the audience what happens in a dream and what happens when things do not make sense. We wanted to share the feeling of what happens in a fantasy world and what happens when objects and people around you are not clear and do not really have any meaning to them. This piece is all about going from one world to another; the real to the surreal.

Inner Turbulence

Marisa Prolo, Kristen Williams, Jessica Neyman, Wendy Bone (Mentor)

In our modern 340 class we were assigned to choreograph a piece that represented an artwork style. We were given fauvism. Fauvism was the first of the avant garde movement (meaning a movement that was ahead of its time) that flourished in France in the twentieth century. Fauve painters were the first to break from impressionism as well as older art traditions. They were spontaneous in their work, painting of nature with bold colors and undisguised strokes. Henri Matisse and Andre Derain introduced this new way of using vibrant colors and vivid brushstrokes into their painting in 1905. When Matisse and Derain had their first painting showcased, The Women with a Hat, a critic Louis Vauxcelles called them fauves or “wild beasts” . By 1908 fauvism began to fade, where fauvist artist started going in a different direction, Derain started experimenting with Cubism and became very popular in that genre of art along with Matisse the father of this movement where he started doing more sophisticated work with balancing between his own emotions and the world he painted. Our artist is Trisha Keiman who is a modern day fauvisn artist. We took one of her self portraits and represented her piece through a dance. She explained that she wanted to show the emotions that we all go through in life. We took that into account and tried to represent that in our choreography, that we all may be put in the same situation but we all have different responses to that situation.
Women in Ponderance

Kylie Barringer, Sarah Hinck, Cassidy Jensen, Wendy Bone (Mentor)

We have been researching the artist Claude Monet, the style of art which our Artographic piece was inspired, and are striving to implement choreographic explorations. The picture being used is an Impressionistic work by Claude Monet entitled Woman in the Garden (Sainte – Adresse). Claude Monet was born on November 14, 1840. In his early years art fascinated him. He attended the Le Havre secondary school of the arts in 1951. He became locally known for his charcoal sketches. Eugene Boudin became his art mentor and taught Monet oil painting. He traveled to Paris in 1862 and became a student of Charles Gleyre. There he met Pierre-Auguste Renoir, Frederic Bazille, and Alfred Sisley. Together these artists tried new approaches to art. They painted the effects of light with broken color and rapid brushstrokes. These techniques became popular during the Impressionism era. Around 1872, he painted Impression Sunrise. This was the first painting to hang in the Impressionist exhibition in 1874. Monet married Camille Doncieus in 1870. Nine years later, Camille died from tuberculosis and Monet remarried. In 1883 he took his family and new wife to live in Giverny, France. Many of his paintings depict his gardens in Giverny featuring the pond and bridge. He painted many landscapes and seascapes throughout the rest of his life. In 1923 Monet had surgery to remove his cataracts. It is believed that after this surgery he was able to see certain ultraviolet wavelengths of light that affected the way he perceived colors. Monet died of lung cancer on December 5, 1926 at 86 years old and is buried in the Giverny church cemetery. If choreography is inspired from a picture, the feeling within the picture can be felt from the choreographic performance because art is deeper than words. Academic Discipline: Dance We plan to complete choreography inspired of a specific piece of artwork and perform it. The objective will be to give the same feeling within our choreography as is displayed within the artwork Woman in the Garden (Sainte – Adresse).

Our Wall

Rebecca Urie, Wendy Bone (Mentor)

This work is about faults and insecurities that develop can cause discord in a relationship. In this piece the relationship is demonstrated between two friends. There are two dancers and 30-40 boxes in the piece. The dancers represent those in the relationship and the boxes are symbolic of the things that people let come between friendship/relationships. These things can build and pile up until they form a wall. In my research I explored what the main cause of discord in a friendship or relationships was and also how this discord is most commonly repaired.

Venture

Rebecca Witt, Wendy Bone (Mentor)

This piece is about the discovery that through risk comes true reward. We sometimes allow ourselves to become complacent in our decisions and that keeps us from experiencing the full excitement of this life. We let the fear that attached to risk overcome us and make our decisions for us. Through the support of others, we can find the courage to take that leap of faith, and therein find true progression and excitement in this life.
Performing and Visual Arts
Performing Live, Live Performance
MC 266 Seating/Dining, 02:00 PM to 04:00 PM

Desolate

Hannah Robinson, Wendy Bone (Mentor)

Three women are in a wheat field harvesting. They are wearing all white and appear to have little feeling except curiosity. The film soon begins to focus on one girl who is moving a way from the group. You can tell she is thinking about things. Soon she is carried a way in a vision where she is in a desert with a man in the distance. She does not like to be a lone and so she draws him closer through dancing and using the sand. Soon he is joined by three more men and she is soon dancing and being lifted by them all. However as the dance continues she soon realizes she is not manipulating them but they are manipulating her. In the end she is left a lone. We return back to the field where the girl is visibly shaken at what she has seen. This is who she is, this is what she could become. The dance is based on Isaiah's frequent references to being "desolate" as this woman realizes that how she views her femininity is not divine but rather mortal and empty.

The Giving Tree

Rhett Jaramillo, Darrell Brown (Mentor)

We all know the children's book "The Giving Tree" by Shel Silverstein. I went about the task of setting this beloved book to music. My first task was to get to know the text, story, and the meaning behind the book. My next step was to write themes. These themes include those for the tree, the boy and the love theme. My next task was writing the work for the proper ensemble. I chose to write the work for band, accompanied by a narrator. Finally, I wrote notes throughout the book about what should go where. The work explores a lot of different musical ideas which are meant to convey certain aspects of the story. One of these ideas is a rising chromatic scale to symbolize the boy climbing the tree. Through the orchestration, I also convey certain images. One of these images is a woodblock being struck, followed by a bass drum, which is meant to symbolize the tree being cut down. The piece will be premiered by the BYU-Idaho University Band on July 17th.
"Chronos" is an original composition for brass quintet. It was written for a contest put on by the Nautilus Brass Quintet through Vox Novus’s "Fifteen-Minutes-of-Fame" concert series. The contest called for submissions of 1-minute compositions, and 15 winners were selected to be performed in concert by the Nautilus Brass Quintet. This piece, "Chronos", was one of the selected winners, and will be performed in New York City on June 29th. The Greek god Chronos is the personification of time in ancient Greek literature. Often associated with the allegory "Father Time," Chronos controls the continual flow of the eternities. This piece, with its simple, driving, clocklike rhythms and melodies, represents the ongoing, relentless flow of time. The piece, as per the rules of the contest, is exactly one minute in duration. The challenge in writing such a short piece of music is to able to fully develop the ideas and materials of the piece--in a sense, being able to say everything that needs to be said in the piece--while keeping it so compact that it can fit within the time limit. "Chronos" is built off a very simple 4-note motif, C-D-F-G. This motif is developed throughout the piece by using different transpositions (playing the pattern, starting on a different note), inversions (playing the pattern upside-down, so C-Bb-G-F instead of the original motif), and retrogrades (playing the pattern backwards, so G-F-D-C), as well as other compositional techniques. This particular motive was very interesting to develop, because it is symmetrical. Going forward or backwards, it contains a major second, then a major third, and then another major second. The presentation of the piece will include a live performance by a student brass quintet, followed by a short lecture on the compositional elements that make up the piece, followed by another performance of the piece to further demonstrate and highlight those elements discussed in the lecture.
Abstract Religious Paintings by Michael Silva

Michael Silva, Leon Parson (Mentor)

I have found my purpose as an artist through, what I guess you can call sad experience. From doing so many projects and research I have seen many images. I have found so many of them to be uninspiring, crude, immoral, making light of eternal truths, among other things, and have felt their numbing effects. Their subject matter and philosophies detract from all the creativity, craftsmanship, and God-given talent that these artists have developed. On the other hand I have seen art created from the heart of untrained artists who create because of gratitude and love. I have also seen professional artists being critiqued for their religious subject matter. My heart goes out to them. Rather than simply avoiding creating unwholesome art, I have actively sought to make a series that is inherently good. More than a passion for art, I have a passion for the Gospel of Jesus Christ. This body of work is made with the intent of glorifying Him. I have picked themes from scriptural accounts made known through revelation. My goal is to bring people unto Christ and my catalyst, in this case, is art. During my adventures of exploring techniques and processes I have found that I really enjoy making textures. I have spent a lot of time experimenting to create new images with interesting textures. Although I enjoy making contemporary fully abstracted art I know that art can have a higher purpose; I know it can have power to help people ponder, understand, and remember things of importance. Essentially I have created abstract religious paintings using textures that I have come upon in my experiments. In this series I used traditional oil paints on canvas and board with an acrylic primatura or base.

Costs and Benefits of Green Home Design

Stephen McCullough, Nate Allen (Mentor)

I am researching green building construction alternatives in an attempt to show the long term costs and benefits of utilizing these techniques compared to traditional residential construction. I am using a basic ranch style home to show this. I have estimated the costs of traditional building and will be showing the green costs for the same home side by side. I will be showing how these designs work with the home to improve the energy efficiency of it. Another part of my research will be utilizing renewable and recycled materials as part of the building process and their costs compared to traditional materials. I am expecting to show that the long term costs of green building and design in a residential setting are cost effective and create a smaller impact on pollution and energy consumption over the life of a home. I will give myself and others a chance to look more closely at green building techniques and how energy costs and green building are at a tipping point right now and will only become more cost effective as time goes on.

Expression of Film

Leanna Davidson, Brian Atkinson (Mentor)

With more affordable digital cameras, more and more people enjoy the art of photography. The feature of instant playback makes photographs an instant gratification. But photography didn’t start out that way. One of the first photographs ever taken was an hour long exposure. The objective of the my presentation is to display the expression of film photography and why, through the overwhelming presence and convenience of digital, why film is still exists. Part of the display will be the process of developing and processing film. Along with a selection of printed photographs that I have taken and processed. All this will be to show the beginning of photography, which unlike today relies heavily on process. And it’s through this process that gives film photography something that digital technology has yet to reproduce.
Interweaving the Self: Medium, Subject, Form

Ellie Fuhriman, Wade Huntsman (Mentor)

The title of my series of paintings is “Interweaving the Self: Medium, Subject, Form”. It unites the things I love: music, dance, and art. It also unites media: paint, fabric, paper, and metal. The genesis of my series was a small piece created for a media-experimentation class a year ago. I placed a figure painting of a dancer on simple collage, creating something that I found unique and beautiful. This small, experimental piece became my favorite, and in a year I could not create one that I loved more. I knew this process was something I needed to explore, and that was not possible in a traditional art class. I began an Independent Study course with the same professor who guided me to create that first piece, Wade Huntsman. In this series I seek to solidify the union of my talents in and love of dance, music, and visual art. My the story of educational career is my being unable to pick one of these loves to study. I began with music. After a semester and a mission, I changed my major to Illustration. A few semesters later, my love of dance drew me to change my minor. With classes in so many fields, I could not find my niche. Last semester I tried out for and was accepted into Dance Alliance, the BYU-I dance tour team. Here I found a melding of two loves, music and dance. However I was still missing the incorporation of Art. This series is an attempt to take several dances performed by Dance Alliance and to encapsulate the feeling a viewer receives from watching the dance and listening to the music into one painting. For me it has been a grounding experience which has finally helped me find a balance between my three loves. I hope by showing the work, to have my audience find me successful.

Italian Renaissance Costuming

Emily Richardson, Julann Blake (Mentor)

The project I want to do for my senior capstone project is to research a specific time period and construct a costume from that time period. First I will research the time period and gather sources, such as paintings, or photos of existing garments, or descriptions from old letters, for specific elements of design in that time period and location. I will then select a play I wish to set in that time period and draw 7-12 sketches for a costume design. I will then execute one of those designs by buying the fabric and constructing the garment. The proposed time period I wish to research is the Italian renaissance, which is in Italy from 1500 to 1550. This is something I can put in my professional portfolio. This will communicate to potential employers that I have the ability to research a time period, relate that time period to characters and themes in a play by designing a relevant design, and construct a period costume with correct design lines relevant to the time period and construction techniques. This will also give me specific technical knowledge in this specific time period, which gives me the ability to design something from this period more quickly in the future.
Summerfest Dance Choreography
Angelica Renae Jones, Gary Larsen (Mentor)

For my senior capstone project I will be choreographing and teaching four routines for the City of Rexburg’s annual Summerfest. Summerfest is an international dance festival. Dance teams from all over the world come to perform and share their culture. All of the dancers are invited to take part in the opening and closing dance pieces for the scheduled events of which I will be in charge of. The project consists of tasks that require not only dance education but also communication skills. Finding and cutting music, recruiting dance leaders, advertising the events, choreographing routines and teaching both dance leaders and international teams are just a few of the responsibilities of this project. This project gives the opportunity to learn a few very important aspects to running successful large group events which will help me in my future career as a dance studio owner. I would like to show my process of choreographing for, teaching and performing with the wonderful performers from all around the world. Giving an oral account of my experiences and showing video and or pictures of my project I hope to accurately portray the irreplaceable experiences I have gained from this opportunity. I would only need a projector to help me with my oral presentation.

How Home Influences Life: The Impact of Structure on the Family
Peter Fillerup, Nate Allen (Mentor)

In researching, I plan to compile reactions from all age groups on how well the homes they grew up in worked for their family. I hope to learn more about the impact the structure of the home (size, room configuration, spatial relationships, etc.) influences the way the family functions within a space. My goal is to gather enough feedback to then design a home suited for the modern family. This home will attempt to incorporate the features and relationships found in the research that provide positive influences and eliminate the characteristics that caused a lower quality of family life. This will be presented on a poster, containing the floor plan, as well as interior and exterior elevations. Obviously, this house will need to be adapted to meet specific circumstances on a case by case basis, but the goal is to generate awareness of the influence that a home, the physical structure, can have on family life in hopes that families will take what is presented an use the ideas in their own homes.
**Bromination of Alkenes to Dihaloalkenes Using DMSO/HBr Conditions**

William Gibbs, Ryan DaBell (Mentor)

Current bromination reactions involving alkenes are dangerous and not environmentally friendly. The use of dimethylsulfoxide (DMSO) and hydrobromic acid (HBr) to brominate alkenes to alkenes represents safer, greener chemistry because they avoid free radical chemistry and DMSO is a relatively mild oxidant choice. The hypothesis for this research was that using DMSO with aqueous HBr would create bromodimethylsulfonium bromide (BDMS), a known brominating agent, in situ. In theory, the BDMS would then react and oxidase an alkyne to a vicinal dihaloalkene. This hypothesis was supported by previous research on oxidizing alkenes to vicinal dihaloalkanes. This paper covers research on the project thus far, including the optimization of phenylacetylene to (1,2-dibromovinyl) benzene and 1-octyne to 1,2-dibromo-1-octene.

**Determination of Boltzmann-weighted equilibrium constants for pinene-based hydroxyperoxy radical-water complexes**

Fan Yang, Kelly Wilson, Paul Spiel, Tyler Southam, Michael Goytia, Elizabeth Buchmiller, Jaron Hansen, Ryan DaBell (Mentor)

Pinenes are a class of bicyclic molecules emitted by conifers and marine flora. These molecules constitute approximately 6% of all biogenically derived volatile organic compound emissions in the atmosphere. Experimental research demonstrates that atmospheric unsaturated organic molecules such as pinene may react with hydroxyl radicals via addition across the double bond. These, in turn, react with ambient oxygen to create hydroxyperoxy radicals. These species are stabilized by complexation with a water molecule and may play a fundamental role in atmospheric chemistry. The present work focuses on deducing Boltzmann-weighted average global equilibrium constants for pinene-based hydroxyperoxy radical-water complexes. Unique stereoisomers for each type of pinene molecule may be produced during the reaction and, typically, thermally excited radicals lying less than 3 kT above the ground state radical energy may have an appreciable relative concentration. Although the more energetic stereoisomers will have a concomitantly lower contribution to the overall equilibrium constant, they still must be considered when determining the average > k.

**Simultaneous Chromatography and Electrophoresis**

Jacob Parkman, Jared Breakall, David Collins (Mentor)

Simultaneous chromatography and electrophoresis (SCE) is a novel separation technique that concurrently employs thin layer chromatography (TLC) and electrophoresis to separate compounds found in mixtures. TLC separates mixtures based on particle affinity for the mobile phase versus the stationary phase. Electrophoresis uses an electric field to separate mixtures. As a result, this two-dimensional analysis improves resolution and provides a more time-efficient separation. In this work a new apparatus design has been developed with the intent to improve SCE separation quality and reproducibility. High pressures (~1000 PSI) promote enhanced analyte interaction with the stationary phase and improve the chromatographic separation. Mobile phase reservoirs allow for a continuous stationary phase saturation, which improves the uniformity of the electric field and the electrophoretic separation. Successful separations of dyes employing the new design will be presented. Future work will include the optimization of SCE separations in the new apparatus by examining analyte diffusion patterns and mobile phase flow rate.
**Synthesis of Pseudoephedrine Derivatives: For the Hinderance of Methamphetamine Production**

Ben van Langen, Zach Greenlee, Spenser Washburn, Mark Pugh (Mentor)

*Home synthesised methamphetamines (Meth) is easily and affordably made from pseudoephedrine and creates a need to find an alternative to pseudoephedrine, a common cold decongestant. Currently Meth is easily converted from most cold medicines. The purpose of this project is to alter pseudoephedrine in order to maintain its pharmaceutical properties while hindering the synthesis of Meth. Esterification is used to add an ester group onto the alcohol group. By adding this ester in place of the alcohol, the synthesis of meth would become much more complicated, this would help to prevent a large portion of the home based meth production. The main objective of this semester was to isolate and identify the product from the esterification synthesis. The product closely resembles the desired derivative. This was proven through different instrumental analysis, including; GC/MS, FTIR, and H-NMR. The nitrogen could have formed an additional bond to the oxygen, making a cyclic structure. Thus far, tests show no cyclization has occurred.*

**The Chemically-Active Toy (CAT): Soft Robotics at BYU-Idaho**

Andrew Sevy, Jon Meyers, Hector Becerril (Mentor)

*The emerging field of soft robotics has potential applications in medical, military, and assisted living domains. While traditional “hard” robots are effective in many industrial and manufacturing processes, their use is limited by safety concerns and environmental requirements (e.g. temperature, terrain, tethering, etc.). Soft robots might extend beyond those limitations as they are made of flexible materials designed to perform in a multitude of environments and be more compatible with biological organisms. To date, most chemical soft-robots require a dedicated operator and a tether to some source of pneumatic or hydraulic pressure. Our work is centered on developing improved pneumatic batteries and soft-robotic actuators using different chemical systems to fuel our autonomous robots. We plan to integrate these concepts into an untethered, marine-inspired aquatic robot with on-board electronic control. Here we detail our progress towards these soft-robotic goals.*
Plate saturation with electrophoresis and TLC separation
Bryce Thompson, Jeff St. Jeor, David Collins (Mentor)

One of the most important aspects of chemistry involves chemical separations. Thin layer chromatography (TLC) can use it to separate compounds in several mixtures with visual comparison for identification. Chromatography is the separation of compounds based on their selective affinity for both stationary and mobile phases. Electrophoresis is the separation of compounds based on their size-to-charge ratio. In this work, both techniques are combined into a single apparatus; saving time, materials, and money. In addition, analyses provide improved separation of mixture components. The apparatus is constructed from acrylic plates, allowing for TLC plate pre-saturation and high-pressure application. It contains two solution reservoirs containing platinum electrodes used to apply the electrical field across the entire TLC plate. Benefits of this new design include smaller analyte spots, controlled mobile phase flow (for chromatographic separation), and reduced analysis times. The most recent focus on the research is dealing with the saturation of the TLC plates. We are looking into how different solutions (acidic or basic) will affect the type of electrophoretic separation. Complete separation of compounds have been achieved in less than 7 min. Continued improvement is expected to achieve effective, beneficial, and inexpensive separations for a wide variety of compounds.

Two Dimensional Separations
Jeff St. Jeor, Bryce Thompson, David Collins (Mentor)

One of the most important aspects of chemistry involves chemical separations. Thin layer chromatography (TLC) can use it to separate compounds in several mixtures with visual comparison for identification. Chromatography is the separation of compounds based on their selective affinity for both stationary and mobile phases. Electrophoresis is the separation of compounds based on their size-to-charge ratio. In this work, both techniques are combined into a single apparatus; saving time, materials, and money. In addition, analyses provide improved separation of mixture components. The apparatus is constructed from acrylic plates, allowing for TLC plate pre-saturation and high-pressure application. It contains two solution reservoirs containing platinum electrodes used to apply the electrical field across the entire TLC plate. Benefits of this new design include smaller analyte spots, controlled mobile phase flow (for chromatographic separation), and reduced analysis times. Continued improvement is expected to achieve effective, beneficial, and inexpensive separations for a wide variety of compounds. This work investigates the affect of TLC pH and pre-saturation on the separation of compounds. Complete separation of compounds has been achieved in less than 7 min.
**Positron Annihilation Spectroscopy to measure defects in semiconductor: Silicon wafers**

Kushal Bhattarai, Evan Hansen (Mentor)

A positron is an antiparticle of an electron that is used to measure the lattice defect in a sample. Positrons and electrons annihilate and generate gamma rays when they collide. By analyzing the gamma rays we can detect the defects of a sample in a non-invasive manner. In spring 2013, a senior physics student demonstrated that positrons could be used to detect lattice defect in copper samples. We wanted to see if positron annihilation spectroscopy method could help detect defects in a silicon wafer. We received three samples of silicon wafers on request from On Semiconductor, in Pocatello. The samples received were a control wafer, an arsenic ion implanted wafer and an arsenic ion implanted wafer that had undergone rapid thermal processing (RTP). Our assumption was that lattice defects would increase in magnitude in this order: control wafer, ion implanted with RTP wafer, ion implanted wafer. We used the positron annihilation spectroscopy method to see if we could detect the lattice defects. However, our positron source, sodium-22, is highly energetic with average energy 1800 KeV, which passed through the sample without annihilating the lattice defect. We cut the semiconductor wafer into small pieces and sandwiched the positron source within the wafer. This sandwich was placed in between two gamma ray detectors to detect gamma rays emitted from the sandwich sample. We analyzed the gamma rays with the Positron Annihilation Spectroscopy Data Analysis software (PASDA) in order to calculate the S-parameter, also know as valence electron annihilation parameter, which tells us about the lattice defects in the sample. Due to our high-energy positron source, the error bar of the S-parameter computed from PASDA overlapped with the arsenic implanted and RTP samples of semiconductor. With this high-energy positron source we were not able to detect the defects in the semiconductor. We tried thin gold and copper films as moderators, but still the resultant S-parameter error bar overlapped.

**The Cascadia Subduction Zone vs. Seaside**

Chloe Woolley, Julie Willis (Mentor)

The citizens of Seaside, Oregon, are poorly informed about the potential danger posed to them by the Cascadia Subduction Zone (CSZ). The question driving my research is whether or not their evacuation plans are adequate for the most likely large-scale tectonic event that is expected to occur. Seaside may have been the subject of such research before, but has not experienced any improvement in public awareness, perhaps to avoid negative impact on the city’s tourist-driven economy. I used ArcGIS and Coulomb 3.3 modeling software to simulate an earthquake along the CSZ and the probable resultant tsunami, subsidence, and uplift, against the town’s evacuation plans, keeping in mind land use, structure stability, and the geology of the area. The city should collaborate with the largest, newest structures in the area to maximize its evacuation plan and increase survivability of such an event, and urge citizens and tourists to take this danger seriously.
**3D Prime Modulus Tree**

Ben Williams, Rick Neff (Mentor)

The goal of this project is to create a program that displays a prime modulus tree in a three dimensional representation. The actual tree will be displayed on the surface of a flat circle. The arms of the tree will be displayed larger as they approach the edge of the circle (asymptotically). The user will be able to navigate in 3D space around the circle to view different parts of the tree. The user will be able to zoom in on the edges of the circle to view parts of the tree that are not displayed at the default zoom. In theory, it will be possible to zoom into the edges of the circle to see infinitely deep into the tree (in practice, memory limitations of the computer will limit the maximum viewable depth of the tree). There are two technically difficult elements to this problem. The first is selectively displaying parts of the tree based on zoom. The second is maintaining the proper sorted order of the visual elements of the tree. It is also possible there will be concerns with performance and memory usage that will require dynamic loading and unloading of parts of the prime modulus tree. Currently, I am working on learning OpenGL well enough to handle this project. Once this is complete, I will build the initial template for displaying the data. Next, I will have to determine how to calculate the tree and handle the data of the tree. Lastly, I will need to figure out the best way to display the data, including maintaining the sorting order when navigating the tree.

**Computation at the Speed of Monads**

Samuel McAravey, Rick Neff (Mentor)

My research focuses on the use of monadic constructs to create program execution paths that are not bound by the same constraints as a traditional computer program. I have found that two important phenomena appear simply by changing the signatures of an entire program to use the continuation monad. These phenomena may have important implications for parallel computing and its more general consumption by developers. The first phenomenon shows how function calls are artificial points of synchronization and how that can be corrected by using monads. The second phenomenon shows how functions can be partially evaluated from the parameters, and potentially even be evaluated out of order. Both of these are possible because the program builds an execution environment that is free from typical constraints of current execution environments. It is guaranteed that both of these ideas are correct because of the mathematical safety of the monadic structures. Together these two ideas provide a way to improve parallelism with minimal effort. I will demonstrate these ideas through examples and show the applicability to real world situations.
Identifying semiconductors through positron annihilation

Kellie Hoiland, Evan Hansen (Mentor)

Positron annihilation spectroscopy is a technique commonly used to understand the voids and defects inside of crystalline solids. Many of the solids analyzed through PAS are metals or semiconductors which are crystalline solids. Crystalline solids are great for PAS because there can be induced voids and defects into the structure, either through physically deforming the solid or doping the solid with other atoms. Positron annihilation occurs when an electron meets its antiparticle a positron. When they meet they will annihilate each other and produce two gamma ray photons. These gamma rays can be detected and used to measure the different annihilations within the solids being used. Semiconducting materials are made of different semiconducting elements and may be heavily doped with other elements. Heavily doped semiconductors have changes in the structure of their crystalline structure and these changes and defects can be detected through positron annihilation. The purpose of this research, is to employ the use of positron annihilation to see if there are differences in differently doped pieces of silicon and if PAS techniques can be used to identify the different semiconducting materials.

Identifying the Differences in Doped and Undoped Semiconductors Using Positron Annihilation

Kellie Hoiland, Evan Hansen (Mentor)

Electron positron annihilation was discovered in the 1940s, and has since been used to understand and map the defects in certain crystalline solids such as metals and semiconductors. A positron is the anti-particle of an electron and carries the opposite charge. When a positron and electron come in contact with each other they annihilate and give off two gamma rays of energy around 511 keV. These gamma rays can be detected and plotted in a Gaussian distribution and then analyzed through certain parameters set up by analyzing the area under certain portions of the curve. This research was conducted with different doped and undoped semiconductors, trying to determine if the differences could be detected through positron annihilation. Intrinsic silicon has a crystalline diamond structure, but when doped with different atoms or ions it changes the structure allowing extra free electrons or vacancies within the structure. These extra electrons and vacancies cause the energies of the gamma rays in positron annihilation to differ. Because of these differing energies we are able to see through analyzing the data that the different semiconductors indeed can be distinguished through electron positron annihilation.
Benchmarking and Creating a Linux Parallel Computing Cluster

Matthew Brownell, Todd Lines (Mentor)

When creating, compiling and modeling physical situations and phenomena, the time needed to run a program increases dramatically as the problem grows more realistic and includes more variables. The computational time needed to run realistic problems or generate detailed graphics can easily reach over 1,000 hours of machine time. Linking multiple computers through a Network File System (NFS) and installing Message-Passing Interface (MPI) software allows the computers to run code in parallel processes on each machine quicker and more efficiently. Once the NFS and MPI software runs properly, the computer must be benchmarked. This allows computer users to discover the strengths and weaknesses of a parallel processing computer and allows the computer to be fully utilized. As of now, eight benchmarks have been executed on the BYU-Idaho Linux Cluster to test kernel speeds and logic. Future testing on the BYU-Idaho Linux Cluster will include calculating computation delay when passing information between nodes, and finding any advantages or disadvantages to running the Cluster as a Lightweight Directory Access Protocol Server (LDAP) instead of the Network File System approach currently functioning. Once complete with benchmarking and testing, the Linux Cluster can be utilized in an array of simulations and programs for the Physical Science and Engineering Department.

Inverse Problems: Theory and Applications

Kinsey Cox, Lawrence Chilton (Mentor)

The goal of inverse problems is to understand a system by using measurements of the system. A key component of understanding the system is constructing a model that best matches the measured data. We focus on two specific applications of inverse problems in this project. The first is using acceleration data to estimate the Earth’s gravitational constant and the initial velocity of a projectile. We gather the data using a cell phone accelerometer application that measures the amplitude of the acceleration before, during, and after the flight time of our projectile (cell phone). We pass this data to our Mathematica program that integrates the data and returns a likelihood surface for the value of the gravitational constant and the initial velocity. The second application takes inter-decay-time data collected from radioisotope decays to estimate the half-life and the number of atoms. We focus on the case where half-life is short relative to observation time. The goal of this application is to identify radioisotopes in the environment.
Orbital Consequences from the Giant Impact Hypothesis

Anthony Hales, Brian Tonks (Mentor)

Much has been studied upon the theory that Moon has come into being from a giant impact occurring near the beginning of Earth’s own planetary formation. A question has been posed that asks whether or not such a large object should have knocked the Earth out of its current orbit around the Sun. The research that I am providing, with assistance and mentoring from Dr. Brian Tonks in the Physics Department, is to determine how likely such a scenario could happen. I have acquired a selected amount of scientific journals that address the specifications of the Giant Impact Hypothesis and my research is purely an interactive program simulation. I am currently using the numerical computing program named MATLAB. I will be using the Euler-Cromer Method to program an orbital and impact simulation of the impact object and the Earth. This method will be ran multiple times through the Monte Carlo Method to determine which initial conditions will produce our current orbit in the solar system. I will have this program allow a user-interface in which one may determine the size of the impacting object and other initial conditions that they can determine to use or see while the program runs. I will collect and display multiple graphs of data to show probability of each scenario and how close the subsequent orbits match the Milankovitch cycles that our Earth experiences during a 1000 year period. I hypothesize that the question posed above will prove to be negative and that the real question will be the results of the subsequent orbit from the impact and how closely it matches our own. I would like to present these findings via the poster session and allow any viewers to interact with my computational program to view how such impacts affect a planet’s orbit around the Sun. I will need power at my location and a small stand or desk for a laptop to be placed.

Using Classification Models to Personalize Education

Carla M Brookey, Lawrence Chilton (Mentor)

College is a difficult time for most students. For many, it is the first time they have been in charge of their own schedule. It can be stressful trying to choose a schedule that works, especially when given so many choices and many students feel entirely on their own deciding not only what classes to take but at what time, in what format, and from which teacher. There are many options for classroom environments, class times, and delivery methods and while schools and teachers try their best to offer the best methods, there is likely no one method that works best for every student. Some students learn better through hands-on learning, others from lecture based courses, and some from online classes where they are free to choose their own personal delivery method. There is a movement in science for personalized medicine; medical help based entirely on the individual, because they have already learned that there is no one right medicine for everyone. As such, they work to identify traits that indicate what method of healing will be most effective for the individual. We aim to do the same with education. Using a branch of statistics known as classification, we hope to begin the process of personalized education. The intent is to assess a student’s unique learning patterns and give suggestions of classes, sections, methods, and perhaps even teachers most likely to help them succeed. We begin by looking at a specific course, MATH 221B-Biostatistics. Through analysis of past classes, we hope to identify similarities between successful and unsuccessful students in various sections. These similarities are then used to predict if a particular student will do well in a specific section of the class and allow for them to make an informed decision when creating their schedule. The hope is that similar methods will be used in the future for a variety of classes at BYU-Idaho, including MATH 108, and other required courses. College is hard enough and the more resources that a student has to help them succeed, the better they will do in school and in the future.
It's Not About The Label: Checkout What's On The Inside

Janae Griffiths, Mike Christopherson (Mentor)

Within IDEA (Individuals with Disabilities Education Act), disability labels identify the formal definitions that are used to determine eligibility for special education or any other accommodations. Disability labels are a necessary part of the special education process; however the need for formal labels has been criticized by some parents and child advocacy groups who have concerns about the negative consequences that stem from this labeling. One concern over disability labeling is the potential for such labels to cause children to be singled out and even ridiculed. Peers can treat children who are different from them unkindly. Some parents worry that labels increase the likelihood of this happening, and that the labels themselves would become a way to tease or ridicule their child. Another point this paper will touch on is that labels are inherently general, and fail to capture the unique strengths and limitations of each child, or the severity of their symptoms. The last aspect of this paper will touch on how labels affect the child. Labels limit the way that special needs children come to think of themselves, and the way that others come to think of these students. Disability labels focus on what students cannot do, not on what they can do, and therefore can encourage children to think of themselves as incomplete or inadequate and to contribute to the development of low self-esteem.

Occupation Benefits Special Needs

Chelsea Centinato, Mike Christopherson (Mentor)

I have chosen to present on occupational therapy and its positive impact of young students. Occupational therapy simply put is the therapeutic use of everyday activities (occupations). Common occupational therapy includes helping patients; for our purposes, we will say children, with disabilities to participate fully in school, common tasks such as writing, reading and social situations, as well as sensory processing and fine motor development. Occupational Therapy can also help with recovery from injury to regain skills. Many students in the Special education program have disabilities that can be overcome through occupational therapy. The process for occupational therapy is first to have an individualized evaluation, during which the client’s short term and overall goals are determined and set. Once the evaluation has occurred and goals are set, a customized intervention is created to improve the student’s ability to perform daily activities and reach the goals that have been set. In the school setting, Occupational therapists use purposeful activity to facilitate a child’s active participation in self-maintenance, academic goals and vocational pursuits. This form of therapy also includes play or leisure activities that occur in school environments. Using direct services, as well subtle signals and assistive technology; iPad for example. Incorporating environmental modifications, school occupational therapists collaborate with parents, teachers and other educational staff to help implement a child’s special education program. By including and incorporating this into student’s lives early on and in the school setting, we can get many students out of the special education room faster possibly keep them out altogether.
The Effectiveness of the RTI 3 Tiered Intervention
Emily Straight, Mike Christopherson (Mentor)
Response to Interventions was created to be an aid to students, to reach out to children, and to be that help struggling learners desperately need. Drawing the line between helping students advance and holding students back can be sometimes be a challenging process. The three tiered program was created to better understand when it is necessary to keep students learning at the general education level, or when they need to be moved to receive extra attention and extra help. Tier 1 accommodates all students, Tier 2 gives help to children at some risk, and Tier 3 is intensive instruction for children in a special education program. Through these different tiers children are supposed to be learning at their different levels and according to their mental capabilities. I will be researching if this tiered system is an effective method in teaching our children. I know that children can lose a motivation to learn and to grow depending on their environment, so I will be discussing if there is a better way to help our children learn rather than moving them from their general education classrooms. I would like to research the effect it has on a child’s mind and how it affects their enthusiasm for their education when they are taken away from their peers. I hope to find that the three tiered system is effective or find a better solution to help these children receive the best education possible.

The Importance of Funding Gifted and Talented Education
Brittani Janson, Mike Christopherson (Mentor)
The focus in education seems to be on those struggling that fall behind the "standards" that have been federally put in place. The learning and physically disabled nationally have billions put towards funding of services. Those that seem to be forgotten are gifted and talented individuals who also need special education. Those that are gifted and especially intelligent struggle in schools where they are left with their peers to do the average coursework far below what they are capable of. These young minds that have above average intelligence and abilities need to be challenged and be put in programs that help them reach their highest potential. The lack of programs and the variation from state to state as well as districts are failing these students who could possibly have the greatest impact on society. These gifted students drop out at the same rate as those not considered gifted and often have behavior problems due to boredom or isolation by peers because of their intellectual abilities. Gifted programs and funding towards helping these students should be just as much a focus as those who struggle due to handicaps or disabilities. I will present information that describes why laws should be put in place that requires schools and districts to accommodate gifted students. I will show that funding programs that enhance and accelerate these students to their fullest abilities is worth the effort. I propose we look at how vital it is to sustain our gifted and exceptional young minds as they have the great potential in advancing and developing our world through the intellect and talents they produce.
The Value of Work: Sheltered or Not

Tawni England, Mike Christopherson (Mentor)

Shelter workshops are good for people with special needs to go to. Some people have an issue that they are inhumane and people with special needs should be able to get a job in the regular community. Many cases such as ones in Oregon, Rhode Island and Minnesota have been brought up lately about how sheltered workshops are an exploitation because they don’t pay minimum wage and the people there aren’t really required to work. Through this I plan to explain how beneficial these sheltered workshops can be and why we should continue to run them. I know in my experience that the benefit of shelter workshops is that they give the people using them a purpose in life. I saw a woman I lived with, who had special needs, enjoy going to work and coming home to talk about all they did, and I saw she was happier on the days she went. I would also like to answer three questions that better explain this problem of how we need to not shut down sheltered workshops: 1. What does sheltered workshops do for people with special needs? 2. How many people work for sheltered workshops? And 3. What would happen if they went extinct?

What happens when teachers and parents work together

Chris Jensen, Dean Cloward (Mentor)

Parents and teachers sometimes do not understand each other. This can cause many problems in the world of education. This becomes a greater problem in the special education field because the ability for their learning quickly closing. It is so vital that these students receive the help that they need when they still want to learn. If we as teachers and parents do not come together when this is their desire then we will do more harm than good for the student and child that we love so much. My project is to help parents and teacher learn to collaborate and come together and work for the better good of the student before the window closes and we lose that opportunity to help them for good.
Is ADHD even real?

Britney Mathews, Mike Christopherson (Mentor)

About 5.9 million children between the ages three to seventeen have been diagnosed with ADHD. ADHD or attention deficit hyperactivity disorder has been a controversial disorder for years, mainly because many of the characteristics of this disorder are also characteristics of a happy, energetic, and full of life young child. Some people don’t believe that ADHD is not even a real disorder. I know that we should be investigating the issue in depth. The diagnoses of ADHD alters so many of our young children’s lives we should be more than 100 percent sure that we are trying to help them with a real disorder that they have and not just an overreaction to energetic children. Because of the high amount of diagnoses’ pharmaceutical companies have been creating new drug attempting to counteract ADHD but sadly many of our children are being overmedicated and become more susceptible to drug abuse. I propose that we take a couple steps further when attempting to diagnose a child with ADHD. When adults are still debating weather or not ADHD is a real disorder should we be altering millions of children’s lives quite yet?

ADHD: It’s Not Just About the Hyperactivity

Elyse Puida, Mike Christopherson (Mentor)

Attention Deficit Hyperactivity Disorder is a common issue for many people. However, it can vary throughout gender. ADHD for men is very different than what several women experience. When one thinks about ADHD, they automatically assume that the child is hyperactive and can’t control themselves with several impulses. This is not the case with many women. For many women, ADHD does the opposite. Often times, this makes women closed off, easily susceptible to stress and may have a difficult time saying no, so the weight of taking on too many things stresses her out. In addition, they appear spacey and have poor time management skills. This is crucial to investigate because many people do not see this side of ADHD. Many people only see the hyperactive part, as mentioned before. It is time to bring awareness to the issue that women’s effects are different then men’s. It is an issue that many people may not understand on a full level that the side effects for women are different. Throughout this presentation, I will address many of the problems and trials that women with ADHD face and show how it is much different for them than men. I hope to raise awareness that there isn’t just hyperactivity with ADHD, but that there are many other types of effects that are tied in with this disorder.
Scholarship of Learning & Teaching
Teacher Education - Oral Presentations II, Oral Presentations
TAY 249, 04:30 PM to 06:00 PM

**Autism and Alternative Treatments**
Michelle Pierce, Mike Christopherson (Mentor)

What is Autism and is there a cure for this elusive disability? Autism is defined as a developmental disorder that appears in the first three years of life, and affects the brain’s normal development of social and communication skills. There have been many treatments that have been proven to help children with Autism. But what about alternative methods for those parents who want something a little bit more natural. There are a lot of new theories being tested that Autism can be controlled and maybe even cured by using alternative methods such as diet and chiropractic care. We are finding that the toxins and chemicals being placed in our food, to make it look and taste better, is harming our brains as well as our bodies. There are many toxins in the American diet that have long since been banned in other countries. Many parents that have put their children on a Gluten-free/Casein-free diet have reported a significant decrease in the symptoms of Autism such as "stimming" and lack of eye contact. Likewise, parents claim they have seen noticeable improvements in their child’s behavior who receive regular chiropractic care. Chiropractors claim that correct alignment gives the body the ability to heal itself. Are alternative methods right for you and your family?

**Autism and Medical Marijuana**
Melanie Bird, Mike Christopherson (Mentor)

Abstract Autism Spectrum Disorder is a broadening intellectual disability in our society. The number of children diagnosed with this disability is continually increasing as more research is conducted. Autism is not caused by any one factor, in fact it has no known antecedent. In addition, there is no cure for Autism, but rather strategies for helping individuals with this disability learn how to cope and function despite this intellectual struggle. Severe Autism, that has a function of extreme violence towards oneself and others, is one of the most difficult on the spectrum to manage because of the child’s inability to stop the force that drives the action. People with this disability are often institutionalized because they cannot control their violent behaviors. In recent study, researchers are testing the use of Medical Marijuana with severely Autistic individuals to pose this as one of many new treatments. Marijuana is a calming herb that is receipted by specific areas of the brain; one key area is the control of body movement. I plan to conduct research to learn more about this treatment; what would be the ramifications to using this drug, what are the side effects, and does Marijuana indeed help Autistic individuals, if so then to what degree? I will draw my own conclusion based on my research findings. Keywords: Autism Spectrum Disorder, medical Marijuana, calming, treatment

**Floortime Therapy: Parents Providing the Needed Support for Children with Autism**
Mallory Dixon, Mike Christopherson (Mentor)

Autism is affecting families from Alaska to Asia, and everywhere in-between. Autism is a disability diagnosed in children before three years old that hinders effective communication. Those with Autism need extra help in developing relationship skills and logical thinking. Many parents feel overwhelmed with the responsibility of raising their child who has this disability. My purpose is to explore the techniques that parents can use to help their child develop healthy relationships and strong communication skills that will benefit them not only at home, but all their life long. I propose that Development, Individual-Difference, Relationship-Based (DIR-also known as Floortime) therapy, is a highly effective tool that will help the parent and child to develop a bond that will strengthen the child’s ability to relate and communicate with others.
Should Insurance Cover Treatments/Services for Autism? To What Extent Should Insurance Companies Cover Expenses?

Emma Grayson, Mike Christopherson (Mentor)

Any sort of medical bills can be a hardship on a family. But a family with a child with special needs can cause a family to fall considerably behind in their finances. There are several different levels and intensities of autism. Because of this the amount of medical expenses can vary greatly from case to case causing insurance to either not cover enough or not cover any of the medical expenses. My purpose is to create a persuasive argument encouraging insurance to cover autistic medical expenses. Questions: 1.) How much does the average insurance company cover in terms of autism? 2.) How severe does the case have to be for insurance to cover autism? 3.) How does a family go about getting insurance to cover medical expenses? 4.) How can not having medical coverage affect a child with autism? 5.) What can insurance companies do to better cover autistic children?

Why is Autism Growing?

Courtney Barker, Mike Christopherson (Mentor)

Autism is a growing diagnosis. While Autism has been around for over 100 years diagnosis seems to be on the rise. Autism now is much wider range of disabilities. Someone who didn’t fall under the autism spectrum 50 years ago would possibly fall under it today. With the classifications for Autism getting bigger and bigger the way we teach and help these people with autisms is getting more and more generalized. I propose to raise awareness that this is a spectrum disorder and Autism can mean many different things.
**Education Should Not Hurt**

Emily Little, Mike Christopherson (Mentor)

The uses of restraints have been a problem that students have been dealing with, at school, for many years. Restraints are often used by teachers who are trying to calm a child down, in order to keep the other students in the classroom safe. Some restraints or isolation techniques may help a child calm down, but often causes mental and physical pain. Many individuals have died from the sever use of restraints. We must teach teachers how to appropriately handle all students in the classroom. Students should not feel hurt when they are attending school. School needs to remain an environment where children can learn, while feeling safe. Some parents state that many restraints have helped their child to remain in school, while others are appalled that they did not even know about the harm that the teachers were putting their child in. One approach to the use of restraints is to talk to the parents and discuss with them the methods on how to deal with the difficulties that their child may have. I propose to write a persuasive speech that investigates the outcomes of different restraints and how we can teach teachers to handle students better in the classroom.

**Have You Heard? :The life of a Hearing-Impaired Student**

Devree Hamblin, Mike Christopherson (Mentor)

Hard-of-hearing students and American Sign Language have interested me ever since I started to lose my hearing. Although learning some sign language and meeting a deaf person helped this curiosity, my desire to know more about these things is not appeased. With the intention of becoming a speech pathologist, I would like to learn all I can – what school is like for them on a day to day basis, what areas to cover based on their needs, and how to communicate with them until another way is established. From these things, my ability to better assist my future hearing impaired students increases greatly. If the knowledge of the best way to help them adjust to the speaking world while maintaining a familiarity to what they knew before while slowly immersing them into this new way of life was available to me, the transition would be that much smoother on the child. However, no way of a smooth transition appears without knowing more about their lives, deaf culture, and what they expect of me as well as the ability to communicate what I expect of them. In order to accomplish this, I propose examining the deaf culture and functionality of a severely hard of hearing child.

**Intervention: Prevention, De-Escalation, Seclusion, Restraint; "It's All About Safety"**

Karla Barreno, Mike Christopherson (Mentor)

Abstract  Seclusion and Restraint should not be eliminated. Many people see it as a way of hurting kids, but it is actually used to protect staff and students from harmful kids with behavioral issues. We must prioritize the safety of everyone, by having an organized structure on how to protect everyone. I propose to write a Persuasive Speech that investigates the different ways of prevention intervention and de-escalation techniques, and how we can make sure teachers use seclusion and restraint as a tool to defend themselves and their students and not to punish misbehavior.
Protecting the Child: Discipline, Misbehavior, disengagement; It’s all about their rights
Lauren Manzano-Hayes, Jillisa Cranmer (Mentor)

Misbehavior and disengagement has been a problem for children with disabilities in schools. Many times, staff members just automatically assume that the students with disabilities are at fault. We must combat this issue because even though different, students with disabilities should be able to have their problems addressed in a special way according to their Individualized Education Plan (IEP). I propose to write a persuasive speech that investigates the various laws that protect children with disabilities and their individuality within the schools and how we can band together to rethink how schools approach disciplinary action.

Safety in Schools, Where is that line?
Brittany Ludwig, Mike Christopherson (Mentor)

There has always been a problem with physical safety in this world. This being said, there has always been an issue with keeping schools safe. There have been at least 74 school shootings since the tragedy of Sandy Hook elementary in Newtown, Connecticut. These statistics show that schools are struggling to keep their students and their staff safe from physical harm. However, sometimes the harm comes in a different situation. Pertaining to the world of special education, this issue goes deeper. It can be a sensitive issue to bring up, so it must be done tactfully. The issue is should the government prohibit the use of restraint and seclusion in schools? In other words, should schools practice the right to restrain kids if they are hurting themselves or others? We all want this issue of safety to be addressed. However, how do we address it and what factors should we take into consideration? Some main factors include the child’s disability and the classroom environment. I will address the problem and its many factors in a persuasive speech. This speech will investigate the issue of restraint and seclusion in schools, and what can be done to keep students and staff safe.

Sibling Rivalry in a Special Home
Madison Slarks, Anna Owens (Mentor), Dean Cloward (Mentor)

Nearly one in thirty-three babies are born with a birth defect. These babies are going into families that don’t understand the issues the child will face and how it will affect the family dynamic. My research is based on solving the issue of sibling rivalry between a child with a disability and a child without one. I have studied family gatherings, family resources in the community, and interviewed members of a family that have a child with special needs. I have found that the main focus of the tension between siblings is the language tools the parents use, and the gratitude taught to the children. This knowledge given to parents while their children are still young can save a lot of troubles in the future. Parenting is already a hard task and anytime an extra challenge is given to a parent it changes how to teach and raise a family. This is a solution that I know can help families realize what a blessing it is to have the influence of a child with disabilities in their home.
Are charter schools better than traditional public schools for children with disabilities?
Shelby Flinders, Mike Christopherson (Mentor)
Children with disabilities have and always will exist, that is why the education system has changed in significant ways over the years; to assist students with disabilities to reach their highest potential. For a child to reach their full potential they are provided with many options, one of those options being a charter school. Many people may know or have heard about charter schools but do they really know what a charter school is and what they can provide for their child? I plan to briefly explain my research found on charter schools and their benefits over traditional public schools. My inspiration for this research problem came from, Taking Sides: Clashing Views in Special Education by MaryAnn Byrnes. For one of the arguments they debated on the topic, are charter schools a good choice for students with disabilities? Having graduated from a charter school this topic sparked a big interest in me. For my research I looked up the definition of a charter school, what charter schools can provide to help students with disabilities, and laws or opinions that support the overall goal of charter schools. The discoveries I found from my research actually confirmed and strengthened my starting opinion on charter schools. The freedoms charter schools have over their curriculum and their smaller student populations is the greatest environment for a child who struggles to some degree. It provides students the chance to be known both on a personal and academic level by their teachers and it allows that student to have an individualized educational experience fit for their exact needs providing the support every students needs to succeed in school and through life.

Early Intervention Provides Lasting Success for Children with Special Needs
Eden Whitehead, Michael Christopherson (Mentor)
Many new parents often wish that their baby came with a manual. Most everyone agrees that parenthood in general is not easy. Imagine how much harder it is to welcome a child with a marked disability to the world, having no frame of reference for how to care for him or her properly. Suddenly things like crawling, communicating, and even eating can become confusing and frightening. Thankfully, there is an incredible resource available to parents of babies and toddlers with special needs. The Early Intervention Program for Infants and Toddlers with Disabilities, as covered under The Individuals with Disabilities Education Act (IDEA), bridges the gap between parent and child, giving them all the best possible foundation for a successful happy life. I propose to write a Persuasive Speech that investigates what The Early Intervention Program actually is, the services it provides, and the benefits it gives to the child.

Seclusion and Restraint in Special Education
Clarah Camp, Michael Christopherson (Mentor)
Secluding and restraining children with disabilities in the classroom has long been a problem. Most teachers aren’t properly trained and don’t take the time to get the proper training to handle these situations correctly and efficiently. Many children suffer because of this. The improper use of restraint and seclusion has lead to the abuse of many children. In the perfect world there would be no use for restraining, but the world isn’t perfect and certain children need help to calm done in order to keep the school environment safe, restraint and seclusion may be necessary. We can help this become less common by implementing into a special educators training of the proper rules of restraint and make it a requirement for graduation. I propose to write a speech that will bring to light the problems in teacher training in this area so that all the teachers can properly be trained and we can put an end to this unneeded abuse.
Scholarship of Learning & Teaching
Teacher Education - Oral Presentations IV, Oral Presentations
TAY 276, 04:30 PM to 06:00 PM

Special Education Services Can Help Students Reach Their Full Potential

Jenny Moseley, Mike Christopherson (Mentor)

It seems that going into Early Childhood Special Education, or anything in the teaching field, we are looking for what is best for the children. With special needs children it is learned that we can pull them out of class to help them. While most the issues in special education seem it is to help the student, is it causing the student to reach only close to their potential? For the success of special needs students everyone I propose to write a Persuasive Speech that investigates different ways we are “helping” special needs students and how we can help them truly reach their potential.

To Label or Not to Label?

Emilee Wirth, Mike Christopherson (Mentor)

In the world of education we sometimes have to label a child. Many times the labels are often taken as negative, but in reality there not. Special education students need to be labeled, it is a positive way of telling someone who that student is. It is important to the state they are in, the schools they attend, and the teacher they are educated with. There are three factors that go into the labeling of a special education student and those are; Individualized Education Plan, funds for the school, and the best education given in the least restrictive environment. As a future special education teacher, I want to have the most information about each student and how I can more fully help that student to succeed in their environment. Labeling allows me to get one step closer to my goal and help the child to reach academic success, within and outside the walls of the classroom.

Understanding and Educating Students with Traumatic Brain Injuries

Mike Christopherson, Lizzie Woods, Mike Christopherson (Mentor), Mike Christopherson (Mentor)

According to the CDC almost half a million emergency department visits for Traumatic Brain Injuries are made annually by children aged 0-14. A Traumatic Brain Injury is caused by a bump, blow, or jolt to the head that disrupts brain function. A Traumatic Brain Injury is something that impacts a child’s life and also education. It is up to us to properly understand the best way to educate a child who has suffered a Traumatic Brain Injury.
A Child's Voice

Carrie Gladden, Mike Christopherson (Mentor)

For those of us who do not have any disabilities or impairments, we do not think about how we will communicate with others. When thinking about this I thought not only about those with disabilities but also about those with verbal and hearing impairments. People with these impairments have truly impacted my life. My family and I have the capability and blessing of being able to talk, to move around as we please, and to do and act as we please. However, for those who have disabilities and are unable to communicate without the help of a device, these simple tasks become almost impossible. Can a simple “button” really give a child a voice? Could a simple button even help someone communicate without an interpreter? Could a simple button change a life? Yes, it can! For my presentation I will be exploring the importance of switches/buttons and communication devices that will give no only children a voice but can be universally designed to help all those in need. An assistive technology switch is just one of the many devices that is capable of helping people get the assistance that is needed. There are multiple types of switches; there are high tech and low tech switches. Some switches can be handmade with a low budget, while other switches can be expensive and can be bought or rented from companies or libraries. They can be all shapes and sizes, and can be attached to wheelchairs, sit on a desk, or be connected to the student. Some examples of switches include a Pneumatic Switch that can be activated by a puff or sip of the lips movement, SuperTalk which is a voice recording device. The most important thing to keep in mind with AT is will it help the individual meet their individual needs in a more manageable way? Everyone has different needs and each will need a different way to communicate what they need or what they are thinking no matter their disability. By creating a switch that will benefit them, you are giving a child a voice.

Can You Hear What I Hear?

Brianna Ashby, Michael Christopherson (Mentor)

A well-known fact among those familiar with Cochlear Implants, is that the sound that an individual actually hears with the implant is much different than the noise that those with average hearing are able to process. While this is an obstacle that is often willingly overlooked by those gaining the ability to hear for the first time, or regaining their hearing after a period of silence, it is still a hindrance to the ability that the individual has to communicate. Through my research, I was able to find studies proving the exponential difference between individuals who do and do not have auditory training. While the individual has gained the ability to hear, he has to learn how to interpret the sounds that are now being transmitted. And while studies have proven the effectiveness of auditory training for those who are learning to translate these signals, these opportunities are not always available due to distance, cost, or inconvenience. My project will cover alternative options and their effectiveness in increasing language differentiation. My research included various studies produced on the reliability of different methods of auditory training, as well as different, more affordable and accessible options for those of low income, those who don’t live in close proximity to the necessary resources, and for the use in school districts.
Gaining a Voice
Colleen Oh, Mike Christopherson (Mentor)

Although much has been done in the past to better increase the awareness of deaf culture and community there is still much work to be done. Many schools offer students the chance to learn American Sign Language (ASL) and many techniques have been implemented into special education programs to help other students communicate with sign rather than with verbal skills. But for children who are deaf struggle understanding their own voice because their main way to communicate is through signing. The W-Talker Speech Device allows deaf children to speak into the device by feeling the vibration so they can learn how to speak. This in turn will allow other methods for the child to learn better within the classroom.

I Get By With a Little Help From My Fictional Friends
Amanda Chartrand, Michael Christopherson (Mentor)

Students with reading and writing disabilities find it difficult to perform simple tasks that normal students can perform with ease. There are many different reading and writing disabilities such as dyslexia, Alexia, Hyperlexia, and Dysgraphia and each has a different effect on a student’s ability to learn. It is important that we help people with these disabilities, because without these basic skills students are not able to be successful in the classroom. Today, there are many assistive technology devices and programs available that can assist students with these types of disabilities. I will research reading and writing disabilities, how they affect students in the classroom, and how these disabilities hinder a student from meeting the general curriculum standards achieved in a basic classroom. I plan to demonstrate assistive technology that can assist these students and help them be successful in the classroom. I plan to demonstrate a program such as Write-Out-Loud or a text reading software, as well as low tech easy to make assistive technology devices. I would like to learn more about reading and writing disabilities and help others understand the importance of these disabilities. I also, would like to better understand how to help students who have these disabilities.

JACO's Arm
Mikaylee Lutz, Michael Christopherson (Mentor)

There are so many students and disabled individuals in the world who have disorders that prevent them from being able to move around and be independent. They must rely on the compassion of another person their whole life because they cannot move around or pick items up or open doors without assistance. However, in a rapidly developing world, experts are coming up with new ways to help people with disabilities gain their independence. One of these brilliant new ideas is called JACO: an assistive robotic device that has been designed to provide individuals with disabilities the resources to be more independent. Many students are unable to learn because of their disabilities and these disabilities used to completely prevent students from learning because they were originally never allowed in the classroom. However, this newfound independency for students to be able to be more confident in their ability to learn psychologically and is also able to help students physically use computers, write, find books, and other important actions necessary for learning. I hope that one day this arm is readily available to my students and other students all over the world. Even disabled students are now able to gain the education they deserve—all through the invention of JACO.
Making the Switch to a Better Life
Natalie Green, Mike Christopherson (Mentor)

Giving a voice to those with physical impairments that inhibit their ability to speak and communicate has been one of the most intimidating challenges for modern day technologists to overcome. Finally, through the use of switches, these people can be heard. This new technology has already impacted the lives of hundreds of individuals. It has affected every moment of their every day; making social interaction possible, and allowing them to contribute to society through the sharing of their knowledge. I propose to research the latest technological advances that make it possible for individuals with severe physical disabilities to effectively communicate. Through this research I would like to discover how these advances have specifically impacted the lives of disabled individuals.
Assistive Technology "Glenda's Assistive Technology and Information"
Leah Barnard, Mike Christopherson (Mentor)
"For people without disabilities, technology makes things easier. For people with disabilities technology makes things possible." Assistive technology is one of the most important things in a classroom with someone who has a disability. With technology it makes a lot of things possible for them to be able to be with their peers in the classroom and to be able to get the best education their is. Glenda's Assistive Technology Information Website gives every school district and teacher a wide range of useful opportunities to help every child in their class room.

Developing the "Write" stuff with Assistive Technology
Lindsey Bates, Danae Wells, Mike Christopherson (Mentor)
There are many students today who struggle with their writing for one reason or another. Whether it is a disability or a result of accident, the strength in muscles for writing may have been lost. Or it could be because they cannot control their arms or hands. When they are learning, they generally require the ability to write things down. So to help them increase the strength to write and have better general hand coordination, they use a type of low tech assistive technology, such as pencil grips and different sized utensils. In this presentation, we go through the different types of pencil grips and the many different ways they help with general hand function. There are also other types of hand-strengthening technology such as stress balls, silly putty, and card holders for hand-eye coordination. We will go over these and physically demonstrate how they work and how it can help those who have issues with writing. We will tell a story of how it has helped someone in our own classroom and why they needed to use pencil grips and other devices to assist them with their writing and hand function. These low tech products can help anyone with their fine motor skills, writing, and hand-eye coordination.

Read it & Weap the benefits of Assistive Technology
Haley McLean, Mike Christopherson (Mentor)
This is a summary of the best practices in using technology to improve the literacy skills of students receiving special education services. There are a variety of low-tech, mid-tech, and even high-tech tools that can be used to enhance the literacy skills of students with disabilities. Page fluffers are a helpful tool that creates independent literacy skills for those who have developmental delays and find turning pages in books challenging. Bookshare is a subscription based online service that provides digital books to people with disabilities. Color overlays are a way people with visual-processing difficulties are able to see the page or lessen distortion to pages in books. Highlighters are low-tech devices that can help readers differentiate important from unimportant text. There are numerous assistive technologies that help compensate for literacy challenges students with disabilities can use.
Reading With Your Ears: Assistive Technology for the Visually Impaired

Lindsey Marshall, Mike Christopherson (Mentor)

Imagine opening a laptop to access an important document, only to struggle finding it—let alone reading it—on account of your poor eyesight. This is a reality for millions of people across the world. With technology gaining popularity in businesses, schools, and social settings, not being able to utilize the features on computers is a growing problem. Screen Readers attempt to address this issue, and provide a way to use a computer without needing to see a single word written on the screen by (often) using a synthesized voice to read it. Because of this, the assistance of Screen Readers allows a person with a visual impairment to be productive on a computer, laptop, tablet, or even phone just as anyone else might be—regardless of how severe their impairment. This presentation will explore these benefits and formats of Screen Readers available to the public. Testimonials from actual users will be provided, as well as an interactive demonstration of NVDA, a free Screen Reader.

The Switches that move their world

Brent Neilson, Mike Christopherson (Mentor)

If you are confined to a chair, because you have a very difficult time moving your arms and legs, how do you get your schoolwork completed? Individuals that have cerebral palsy, multiple sclerosis or any number of diseases that can limit the function of their extremities will require help in order to work a wheelchair or function in their daily life. To look at ways to help people in these situations we need to look at switches and new technology that allows for them to interact with the different pieces of equipment that are available so that they are able to do more work and become more productive in their lives. The technology that I’m going to demonstrate is switches that not only allow you to move a wheelchair but also will interact with other pieces of equipment like computers to help people better interact with the world around them. This will allow them to turn equipment on and off and to help them navigate between different programs within the computer itself. It also allows them to be able to move around the house or store by just slight movements of their head because their hands will not grasp the joysticks.

Touch Chat Can Help Children Find their Voice

Justin Esteves, Mike Christopherson (Mentor)

Have trouble speaking or know of someone with speaking problems and/or disorders such as: Down syndrome, Apraxia, ALS, Autism, and other disorders that impede a person’s capabilities to speak? There are many disorders out there in the world that complicate how people speak and interact with others. This impedes their development and the life they could be having. There are many Assistive Technology (AT) devices that can help people and students with their everyday lives, especially for those that have this trouble forming words and making sounds. Caregivers and teachers should focus in finding solutions for such an enormous problem people with disabilities face. Finding solutions will help these individuals, which are living with this enduring obstacle, will be able to become more involved in discussions and feel like what they have to say really matters, and that is why our purpose here is to make the lives of these individuals easier and less as a challenge. Now knowing this complication some people face, I would like to grab your attention towards an AT device that will help these individuals with their speaking limitations, this app is called Touch Chat. This application is found on apple products such as the iPhone and the iPad. This app is a full featured communication solution for those living with a speaking and communicating impairment. Through this app provides people with new doors that are opening.
Scholarship of Learning & Teaching
Teacher Education - Poster Presentations III, Poster Presentations

ESL & Special ED
Annie Davis, Dean Cloward (Mentor)

Your fourth-grade student Timmy is behind. Sure, he’s only been speaking English for three years, but his other second-language peers seem to be doing fine. You have given him supplemental reading aids in his first language to understand concepts. You have sent notes home to parents. You have even talked to your school’s English as a Second Language (ESL) teacher. You ask yourself, “What if it is more than just the language? What if Timmy has a disability? What are the procedures for finding out? How do you avoid an inaccurate diagnosis? Are their laws for students like Timmy that you need to be aware of?” My Special Education classes thus far have glanced over, but not really talked in-depth about, students like Timmy. I have heard about disproportionate placement in Special Education programs, as well as students who need Special Education help and are rejected, using English Language Learner (ELL) status as an excuse. In my research thus far, I have learned that ELL students have higher dropout rates than non-ELLS. Proper assessment and evaluation is critical to helping these students get placed in the proper setting and hopefully increase academic success. Appropriate assessments need to keep not only language in mind, but culture as well. Because differing cultures between the evaluators and the student can create inaccurate data interpretations, it is important to ensure that assessments aren’t culturally loaded. In an attempt to heighten my awareness of these matters, I will perform research through reviewing articles and books, as well as performing interviews of informed professionals about the ELLs that may and should be eligible for Special Education, and how we can make sure that these students are properly placed.

It’s OCD, Not Me
Erica Romero, Mike Christopherson (Mentor)

With the popularization of television programs and characters, such as Monk and The Big Bang Theory’s Sheldon Cooper, OCD (or Obsessive Compulsive Disorder) has become a euphemism for clean freaks and perfectionists everywhere. In reality, Obsessive Compulsive Disorder is anxiety based and is characterized by unwelcome and intrusive thoughts which cause confusion, discomfort and mental exhaustion. Coupled with compulsive physical and mental rituals, Obsessive Compulsive Disorder can haunt even the youngest mind. Because of this, it is especially important for educators to recognize the symptoms of OCD and the influence it may have on a student’s performance, as well as possess adequate knowledge as to the resources and technology available for students in the classroom. One such resource is ‘Live OCD Free’, an interactive application which serves as an at home therapist and relies on exposure and behavior therapy to treat OCD sufferers. Designed with an adult and a child version, ‘Live OCD Free’ is discreet, private, and suitable for children to use in the classroom. In this presentation, I will define Obsessive Compulsive Disorder, explain the affects it can have on a student’s performance, and will demonstrate the use and effectiveness of the interactive application, ‘Live OCD Free’.
Modernization of Special Education Documents

Brittney Case, Dean Cloward (Mentor)

I have done a lot of research of the way that IEPs are documented and stored. I have found that each school has a different way of doing his task. My goal of this project was to write a Bill that could be presented to the Senate on how we should modernize the way IEPs are kept. Due to the never-ending lists of kids that move from school to school it’s hard to keep up with their academics and needs. In an age of technology we have to power to make these life changing moves less stressful for a student with special needs. I have created a blog that has sources that talk and teach about what IEPs and 504, and have links to student accessible sites that help them understand what is being done to help them succeed. Along with the blog I have found that the internet is the perfect way to store and keep information that can been seen by everyone. My goal for this Bill is to introduce the internet as a way to store and keep all IEPs in one nationwide database. By doing this all schools will have access to the information they need. This will help so that if a child moves locations there will be no way information can be lost and the child will not have to go through retesting.

Schedules help Autism PLAN for success!

Amy Boggs, Mike Christopherson (Mentor)

This presentation is designed to help parents, educators, and community members understand more about the importance of scheduling for students with disabilities specifically those who have an Autism spectrum disorder (ASD). A variety of different types of schedules will be displayed to highlight the importance of scheduling according to the individual student. The types of schedules covered will included lists, calendars, verbal and picture schedules. This presentation will address how schedules eliminate anxiety from a child’s day by using real student, teacher and parent experiences. I plan to show that students who use a type of schedule during the day are likely to behave better in the classroom and at home. Also I hope to show that a child’s behaviors will be decreased and possibly elevated if they are presented with some type of schedule. This project is significant because 1 in every 68 children are diagnosed with an Autism spectrum disorder every year in the United States. It is important that the right services are given to these children to provide scaffolding. Schedules are a form of low tech assistive technology. Assistive technology (AT) is defined as any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability. The implementation of the right AT device can be crucial to the way a child will fit into a classroom. With this presentation I hope to prove that schedules are a crucial at device for students with an ASD.
What now? A "Go-To" Blog for Parents of Children with Special Needs

Brittni Chung, Dean Cloward (Mentor)

Whether it is between dad and the coach or mom and the doctor, there is often a noticeable gap between parents and professionals. Why is there a gap? According to several parent input passages from “From the Heart: On Being the Mother of a Child with Special Needs” compiled by Jayne D. B. Marsh, parents (mother’s in this case) feel that professionals do not hear them and their concerns. My project is based on finding a way to lessen that gap, and make a resource for parents including self-advocacy, support, parent and professional interview Q&A’s. As a final product, I would like a blog that would be a ‘go-to’ for parents of children with disabilities. This blog will contain my interviews from parents who have raised children with special needs, as well as professionals in any field that has contact with children with special needs. These interviews were based on their experiences, good and bad, relating to helping and handling disabled students. Also included on this blog, there will be posted readings, news reports, basic special education law, self-advocacy guides, and ‘tips and tricks’ that a parent could do with their child at home—all things that would better prepare parents to make a better connection with the professionals they are bound to work with. Through a poster board presentation, I would introduce my motivation as well as my preparation in the making of blog as well as my end goal of parent advocacy and parent/professional. This presentation would continue with a tour of the blog and it’s amenities and then will conclude with a Q&A segment.
Art Therapy: Unlocking the World of Disability

Kayla Fitzgerald, Dean Cloward (Mentor)

I’m 6. The table before me is littered with paintbrushes, maker caps and broken crayons. The paper is full of scribbles of clouds, splashes of sun and the images of those important. Messy fingers, messy faces, the stack of creations grows bigger. Each one with smiles, stories and excitements, they are mine. Simple images, probably destined for the trash can after appearances on the refrigerator door, but they were there. They are glimpses at something bigger, something more important. They are the prints of childhood, the expressions of a world viewed at 3 and half feet. They are art. The world of child is seemingly carefree, an endless opportunity for adventures until the monster of reality takes the stage. When it happens, how do they escape? Kicking and screaming aren’t enough, the silence can’t be broken. Imagine that world now as an adult, a veteran, the victim of trauma or sickness, disability, death. How do we escape? The challenge of acceptance is far steeper than most are willing to climb, the negative connotation surrounding therapy are enough for the most courageous to turn their head. In a world where so much is new, so much is changing; the world of therapy is also growing. Art therapy allows the ability to express inner thoughts on a deeper level, one that perhaps isn’t accessible by mealy talking. It creates understanding, bridges past and present and calms the soul. For children with disabilities, the experience of sickness, sadness and deep emotional feelings is far too real. With limited ability to verbally express, art therapy is a branch that can be extended to allow us to better help heal, know and comfort. Art therapy is a solution that schools and parents need to implement to enrich the lives of their special children. Through current research, first hand experiences and the knowledge of children with disability, this project will show how art therapy can unlock the minds of autism, Down syndrome and other intellectual and developmental disabilities.

Exploring and Creating Balanced Curriculum

Melissa Hokanson, Vaughn Hokanson, Marc Skinner (Mentor)

Elementary and early secondary education faces many challenges in meeting all of the standards and needs of students with intensifying state standards and regulations, budget restrictions, and a rapidly changing technological world. To meet these needs, classrooms today need a balance between all domains and areas of learning: social, academic, creative, and kinesthetic. In this project we focused on discovering principles and creating lessons that include more kinesthetic movement in the classroom to supplement and add viability to the other domains. Methodology included research of current best practices and interviews with current teachers and professionals in the education field. Information gathered, in order to be useful, needs to be accessible and disseminated to parents, teachers, administrators, and others with a vested interest in the education of children. For this reason our findings and curriculum ideas now have a place, as a part of this project, on the World Wide Web.
Scholarship of Learning & Teaching
Teacher Education - Poster Presentations IV, Poster Presentations

Give Them a Chance: A Stand Against Bullying Special Education Students
Mary Catherine Waddell, Dean Cloward (Mentor)

As a Special Education Major, special needs students have a very special place in my heart. I want nothing more than to help them with the best possible future available to them. I want them to make the most out of what they are given. I want each new day to be the next best day of their lives. However, I have come to the realization that not everyone feels this way about those with special needs. There are some who do not respect or understand the potential that these students have. Just because these students have special needs does not mean that they do not have any abilities at all. They want a fair shot at life just like the rest of us do. They have feelings, goals, hopes, and dreams too. But because they can be physically, developmentally, intellectually, emotionally, or socially challenged, they often times become victims of bullying. Through inquiry and extensive research, I have found the causes, effects, and possible solutions to bullying. My project presents the implementation of anti-bullying programs to help students with special needs.

Picture Perfect
Alyson Tanner, Lynsey Stephens, Michael Christopherson (Mentor)

Many disabilities inhibit the motivation to complete a variety of tasks. These disabilities include, but are not limited to, Autism, Alzheimer’s, and traumatic brain injury (TBI). Some individuals with Autism may struggle with the ability to prioritize or organize their daily routine. To improve their daily functions, it helps to have a structured schedule. People with TBI or Alzheimer’s may struggle with daily routines because damage has been done to impair their memories. We have been researching an app called Picture Scheduler that can help with these difficulties. Picture Scheduler, compatible with iPhones, laptops and iPads, allows the individual to make a list of personalized tasks. These assignments are linked with specific images to assist the individual with task recognition. Each task is assigned a time in which to prompt the individual to perform the errand. We hope to be able to demonstrate how easy it is to address a problem that can be such a challenge in another’s life. Throughout this research, we will explore the many features of Picture Scheduler and how it can be used to improve the lives of the beneficiaries.

Small and Simple Can Be Best
Shanlee Lunt, Mike Christopherson (Mentor)

When it comes to Special Education there are many resources within Assistive Technology (AT) that can help a student succeed better in a classroom. Within the AT resources there are three categories that resources fall under: low tech, mid tech, and high tech. When going up the categories, resources become more expensive and technical. When deciding what resources would be best for the student, the parents, teacher, and IEP team look at lots of options and try to decide what is best. Sometimes it is decided that something from the high tech would be best, BUT just because it is bought doesn’t mean it will always be used. High tech equipment has a lot of components and specific ways to make it work correctly. If someone isn’t trained in that specific equipment, then the equipment will sit in the corner of the class and not be used for its purpose. To avoid this situation, there are many items that can be made or bought at a local store for much less. My goal is to show that starting with common and easily accessible technology can be more effective.
Youth Relationship Education: An Evaluation of the What's Reel Curriculum

Jimmy Bridges, Scott Gardner (Mentor)

This study evaluates the effectiveness of a relationship education program in improving healthy relationship skills. The current study focused on the evaluation of a new relationship education curriculum, What's Reel. The content of the curriculum is designed to dispel myths and increase accurate knowledge about healthy relationships and marriage, in addition to changing attitudes that could lead to positive behavioral changes in the future. Teachers from around the country were invited to participate in the What’s Reel curriculum. Four schools participated in the study. The What’s Reel curriculum was evaluated with 206 students from the four participating high schools during the 2011-2012 school year. By agreeing to participate, the teacher agreed to give the survey to his or her class in which the What’s Reel curriculum was being taught as well as to one other class being taught by the same teacher in which he or she did not teach What’s Reel. Students were also given a post-test after the What's Reel curriculum was taught to the What’s Reel class (approximately 2-4 months later). The primary purpose of this curriculum is to dispel potentially damaging myths about relationships and marriage. Findings showed the time by group interaction for accurate knowledge about healthy relationships and marriages was significant, F(1, 162) = 14.75, p < .0001. Another major goal of this evaluation was to assess changes in attitudes, which can and do affect future behaviors. Attitudes assessed included: pre- and post-marital counseling and marriage enrichment, cohabitation, marriage and self-esteem. The time by group interaction for attitudes toward pre- and post-marital counseling and marriage enrichment was the most statistically significant among the other variables relating to attitude, F(1, 170) = 11.14, p < .005. This indicates that the What’s Reel group became more likely to participate in marriage preparation classes before marriage, in marriage counseling if their marriage has problems and in marriage enrichment opportunities during their marriage. Other significant findings, trends, and implications are explained in the presentation and manuscript.

Marriage Opinions Among BYU-Idaho Students

Chris Baccile, Bria Rogers, Malorie White, Samantha Fox, Steve Dennis (Mentor)

Our research study is a replication of the Pew Research Center survey on marriage. Their survey was conducted over the telephone and a total of 1,520 interviews were completed. We’ve recreated a survey that has been submitted to 500 Brigham Young University Idaho students and administered it online through Qualtrics. Our survey includes questions that we felt would best inform us of the perception these students have towards marriage and family. Upon receiving the results of the survey, we will compare to that of the Pew Research survey that was performed. Not only do we hope to compare, but contrast the results from that of a larger population throughout the United States and a population of LDS individuals. Through our study we hope to increase awareness of marriage opinions which, in turn, will inspire, educate and inform others. We also hope that an increased sense of awareness of opinions will spark advocating practices among students to stand up for what they know to be right.
Shame, Guilt, Family Efficacy, and Religiosity as Influences on Eating Attitudes

Kaila Duke, Chris Baccile, Hailey Gochnour, Kelly McCoy (Mentor), Melissa Carr

The purpose of our study was to understand how family efficacy and religiosity affect guilt and shame and how all of these may contribute to whether or not individuals report disordered eating attitudes and behavior. One hundred and six females between the age of 18 to 25 years completed self-report questionnaires about themselves, their family experiences growing up, and their current eating attitudes. Invitations to participate in the study were sent to participants with both a paper copy of the questionnaire and an internet link to complete the questionnaire on-line. Of the variables examined, shame was by far the most significant predictor of eating disordered attitudes and behavior. We believe that the model tested here demonstrates that religiosity and family efficacy may both be important contributors to eating attitudes and behavior, but only as they are significant to a young woman’s feelings of shame when experiencing self-disappointment. We were surprised that feelings of guilt when experiencing self-disappointment did not serve as a better buffer against eating disordered attitudes and behavior.
Roger Williams and the Birth of Religious Freedom in America

Bradley Koeven, David Pigott (Mentor)

Religious Liberty is a precious freedom that many people have valued throughout history. There are many reasons for why religious freedom matters so much, for example, religion to a large degree dictates our values and actions. Catholics partake of a small amount of wine as part of communion - a sacred ceremony in which members partake of the flesh and blood of Jesus Christ to show their acceptance of his sacrifice. Islamic women wear a veil, and conservative clothing, outside their home as a sign of chastity, while some Pentecostal faiths require their members to handle poisonous snakes as a sign that they are true believers. Some of these practices may seem weird, dogmatic, or even dangerous, but they are merely part of the wide range of ways that people choose to express their faith in God, or the divine, and find meaning, and purpose in life. In the past, strange beliefs and practices have been suppressed, and their advocates violently persecuted in an effort to encourage widespread conformity to a common religious belief. In today’s world religious climate, however, members of many faiths find tolerance for their religious beliefs and practices. The modern world owes its religious freedom to men like Martin Luther, John Calvin and Roger Williams. But Luther and Calvin, who fought against conformity, and were great advocates for religious freedom and tolerance, were also highly intolerant of other conceptions of Christianity. Roger Williams, on the other hand, created a working model of religious freedom and tolerance that embraced the belief and expression of many faiths. My research has been based out of primary sources such as the works of Roger Williams, the writings of John Calvin and various secondary works.

Signing Statements: Avoiding an Embarrassing Legislative Override and the Separation of Powers

Tayler Bingham, Matt Miles (Mentor)

Presidential signing statements are of recent debate in the realm of political science. Their types, function, and constitutionality have been well worded and well debated. In this article, I intend to clearly argue that signing statements are the result of an old practice that has been reworked into a new policy tool to avoid the embarrassment of a legislative override. Not only will I detail this current development and use, but through statistical analysis, I will provide evidence as to when signing statements are most likely to occur, a model that fits perfectly with my argument. Every signing statement from President Clinton through the fifth year of President Obama’s administration is analyzed according to the tone of the bill, whether or not a court case or a department is mentioned, as well as looking at both the presidential and congressional popularity that was present during the time the signing statement was issued. These variables will serve as independent variables. I argue, however, that it is the difference between the congressional and presidential popularity when tested against the type of the bill—either rhetorical or constitutional—that shows when those signing statements are most likely to occur. I argue that when the difference between congressional popularity and presidential popularity decreases and becomes more equivalent, then the likelihood of a constitutional signing statement is most likely to occur. I propose that the reasoning behind this is that when the President and Congress have nearly equivalent approval ratings, the likelihood of a legislative override is most likely to occur, and, since it is most likely to occur, presidents have found a way to use signing statements to channel their constitutional objections and thus save their administration from the harm a legislative override might cause to their administration and the furtherance and implementation of their policies.
The Divergent Beliefs of Religious Freedoms in the United States and France

Eljay Robertson, Andrea Nelson, Neal Carter (Mentor)

Within the advanced industrialized nations the United States is often ranked as the state with the most religious freedom, whereas France is often ranked near the bottom. Though allies, the two countries view the role of religion and society very differently. The United States was founded for religious freedom and toleration, while France has fought battles to escape religious rule. Today the two countries have different approaches to what are acceptable displays of religiousness in their education system, business world and public setting; and though they debate about what religious freedom is and what it should entail both nations have a strong regard for individual beliefs and practices. This research seeks to examine and explain the events and policies that have led these two countries on diverging paths. To do this, the role that religion itself had in the shaping of these two countries and their societies will be examined as well as prominent court cases, historical events, and laws.

The Role of Religion in Public School Systems: A Comparative Case Study of the United States, Spain, and Germany.

Jacqueline Yelton, Aaron Masterson, Andy Briner, Neal Carter (Mentor)

This paper synthesizes the research of religious education in public schools within the United States, Spain, and Germany through a mixed case study methodology. Specifically, we emphasize the legal and public controversies surrounding this topic within each of these states. This is done in an attempt to ascertain which form of religious education incorporation in public schools is most widely accepted by the citizens. This article further discusses the benefits and downfalls that can and have arisen from either including or not including religious education in schools, and specifically addresses the tensions present in debates between education experts and officials as to the appropriate level of religious incorporation in public education. Additionally, we examine the laws set in place to allow religious freedom while not impeding the religious freedoms of others, which outline specifically the legal limitations of religion in public schools. To conclude, we examine why each system has either succeeded or failed in their respective states, and further determine under what circumstances these systems can be effective.

What are the positive and negative effects of judicial decision on religious freedom?

Kaitlin New, Addan Pincock, Neal Carter (Mentor), Abram Kissell

For this research, we will be examining three different aspects of judicial rulings within the United States and England concerning the effects of civil and religious rights. These aspects will include the gay, lesbian, bi-sexual and transgender (LGBT) community, atheism and cases concerning religious customs of each country. One of the main court cases that we are interested in breaking down is Proposition 8. This is the most prominent case dealing with the LGBT community and the religious public in the United States and how citizens in our country have been affected since this proposition. We will also be looking at the atheist community and how they have had a strong voice in removing any religious reference from both societies. The final aspect we are looking at are the cases involving general religion, specifically on whether religious customs can be observed. We will be analyzing court cases, newspaper articles and peer-reviewed journals to help us have a better understanding of these decisions.
Religious Freedom: Theory vs. Practice

Carissa Bales, Anne-Catherine Guilpin, Adam Schwartz, Chaylyn Kohler, Carter Neal (Mentor)

The United Nations defines religious freedom as stated: “Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in the community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.” This definition is in ideal in theory, but how does it work in practice? Our research will present the ways in which this definition is used in a positive and negative manner in the states of the U.S., Belgium, France, Germany, Japan, and Brazil. We will present the states’ hierarchy of religious classification and the way in which legal recognition of spiritual organizations are attained. We will study the rise of Anti-Semitism and describe how laws in these states discriminate minority religions (for example, The Church of Scientology, Jehovah’s Witnesses, and the Branch Davidians). Lastly, we will propose policies to improve the fair implementation of laws regarding religious freedom.

The Influence of Societal and Cultural beliefs on Religious Freedom

Natalia Hageman, Neal Carter (Mentor), Florencia Camargo, Hassan Pixler

Changes in society and culture have had a larger impact on religious freedom than the changes in legal precedents. Religious freedom is a term that is portrayed differently in advanced industrialized countries. A significant amount of research has shown that cultural changes and societal beliefs have been the biggest influence on changes in the perspective of what religious freedom is as opposed to the impact of governmental interference. In comparing the evolution of religious freedom historically in the United States, France, and Canada, research denotes that as a result of a difference in societal beliefs, cultural practices and in the running of educational systems, religious freedom is being defined and looked upon as something different than what it was in the past. Based off of studying the historical evolution of religious freedom, its impact overtime and the change associated with it show that those changes have a larger impact on freedoms than governmental involvement.
Assessing interpersonal conflict in the workplace: A preliminary examination of the psychometric properties of the Workplace Interpersonal Conflict Scale (WICS) among home care consumer-employers

Autumn Graves, Jacob Wilhite, Robert Wright (Mentor)

Interpersonal conflict is a prevalent problem within the workplace that has numerous consequences for both employee (e.g., depression, negative affect) and organization (e.g., turnover, productivity). However, currently available measures of this important social work construct suffer from multiple methodological challenges, which pose significant problems in measuring and addressing this potent work stressor. For instance, the most widely accepted measure, the Interpersonal Conflict at Work Scale (Spector et al., 1998), was developed nearly 20 years ago and, given that our understanding of the social work environment has since changed dramatically (e.g., Barki & Hartwick, 2004; Bruk-Lee & Spector, 2006; Schieman & Reid, 2008), may be too far antiquated in history to comprehensively assess contemporary instances of conflict at work. Moreover, several existing measures suffer from a lack of conceptual development, empirical analysis and rigorous measure validity examination. Thus, there is a need for a scale that can capture workplace interpersonal conflict in today’s work environment both reliably and validly, which can then be used to provide diagnostic and remedial suggestions for organizations. For this purpose, the 7-item Workplace Interpersonal Conflict Scale (WICS) was created based off of a qualitative study on interpersonal conflict (Wright et al., 2014). In the current study, we will conduct a secondary analysis of data collected from employer-consumers of home care workers in the state of Oregon to evaluate the psychometric properties (i.e., reliability, validity) of the WICS. Results will be discussed in terms of the appropriateness of this scale in the assessment of workplace interpersonal conflict.

Marital satisfaction: The relationship between prosocial behaviors and personality characteristics among newly married students.

Jayson Carmona, Shawn Adame, Robert Wright (Mentor)

This study addresses influences of prosocial behavior on marital satisfaction, focusing on the spouse providing the prosocial behavior, and the interaction between prosocial behaviors and personality characteristics in this relationship. We expected that increased prosocial behaviors would predict increased marital satisfaction. Using focus group methodology, we had eight (female = 6) recently married undergraduate students at BYU-Idaho participate in identifying their perceived prosocial behaviors in marriage. These data were then used to create a measure of prosocial behavior that will be used to evaluate our hypothesis. Participants will be solicited from undergraduate courses with the only eligibility criterion being recently married status. Participants will complete a short questionnaire regarding prosocial behavior, personality characteristics, and marital satisfaction. Although data collection has not been completed, we anticipate that students who exhibit more prosocial behaviors will report more marital satisfaction than those who had less prosocial behaviors. Moreover, we expect that those who score higher on conscientiousness will also report more frequent prosocial behavior. This study has many applicable and theoretical contributions, which will be discussed in light of therapy for couples that are experiencing low satisfaction in their marriage.
Primed to Give: A descriptive and inferential study of factors involved in charitable online donations.

Travis Nilsson, Tyler Smith, Michael Watkins, Shelly Vlaksefjh, David Zealley, Scott Davis, Jordan Hunter, Yohan Delton (Mentor) , Kyle Whittle

This study is part of a consultation project for an organization called “Orphan’s Future”. This non-profit organization is founded by an orphan, to help other orphans have a fair chance once they leave the orphanage. The study is focused on donation for the organization, and what would help someone to be more likely to donate. Furthermore in this study we will be looking at and measuring how long it takes someone to get to the donation page of the Orphan’s Future website, how much time they spend on it, and what their feelings are about the organization. We will also measure levels of excitement with an EEG device, to see what about the organization and the website excites participants. In this study we prime participants by having them view a youtube video about the organization, we then ask participants to view the webpage and track their usage of the page. After this we will the question participants on feelings of donation. Our hypothesis is that as participants learn more about the organization the more likely they will be to donate, and the less time it will take to look into how to donate. We theorize this because as the participants become educated about the organization they will feel a moral obligation to help those less fortunate than them, in this case the orphans with Orphan’s Future. This translates over into feelings of donation. We will see this by longer time spent on the donations page of the website, more excitement, and in the questioner. Once we have our findings we will communicate them to Orphan’s Future. We will inform them of what it is about their website that influences people to want to donate and what they could change to influence people to donate. We will also let them know what it is about the website and their organization that is readily available that already causes such feelings.

Self-Esteem and Social Perceptions: Does My Self-Esteem Affect My View of Others?

Cora Solesbee, Rob Wright (Mentor)

Self-esteem is a widely acknowledged important topic linked to many important psychological and behavioral outcomes. The purpose of this study is to determine how influential our own self-esteem is when we are perceiving others, specifically based on their physical appearance. We hypothesize that when people have low self-esteem, they will project those negative attributes and attitudes onto others when they are perceiving them. Our second hypothesis, is that those who have high self-esteem, will project more positive attributes and attitudes towards those they are perceiving. The main target of our study is how women’s self-esteem can influence their view of other women based on their physical appearance. We were able to test these hypotheses by having two experimental groups where high self-esteem was induced in one group and low self-esteem was induced in the other and we also had a control group. Within those groups we gave all three identical scenarios of a new woman entering into a group (work, school, and social). In each scenario, a photo of an attractive woman was included with ten questions asking about her physical appearance and her personality. We performed a pilot study beforehand where a sample of subjects (n=12) were asked to anonymously rate 6 women’s photos from one to ten (1 being the lowest, 10 being the highest). Based on the results of this pilot study, we selected the three highest, most similar rated photos for the experiment. We randomly assigned participants to one of three conditions and manipulated self-esteem by asking participants to think of a time when they had low self-esteem or high self-esteem and also had a control group where no manipulation was performed. Results will be discussed in light of self-esteem theory and implications in regards to social and workplace application.
The Effects of Adult Attachment Style and Self-disclosure on Perceived Closeness in Young Adults

Jessica Sabin, Eric Gee (Mentor)

The development of interpersonal relationships is imperative to the quality of life of all individuals. This research will add to the body of information concerning development of these relationships by studying how adult attachment style and amount of self-disclosure will influence the closeness the participants feel. The methodology used is based on Aron, et al. (1997) research. The participants will begin by filling out the Relationship Questionnaire (RQ) to determine their attachment style. Partnerships will be created based on their attachment style (insecure/insecure, secure/secure, and insecure/secure). Each pair will be assigned to a group: the “closeness-generating” group or the “small talk” group. Three envelopes will be given to each pair. The different conditions will be sent to separate rooms. Direction will be given explaining that they are to focus on getting close with their partner. The experimenter will ask the participants to open the first envelope and to discuss the questions inside for 15 minutes. They will take turns reading the questions. Each partner will answer the questions. They will continue to envelopes two and three. Each will be discussed for 15 minutes each. After the questions in the third envelope have been discussed the pairs will separate to different areas of the room. They will then fill out the closeness measurements. Post experiment the researcher will debrief the participants. Clarification will be given that the intention of the experiment was to study the development of closeness and not to create new relationships for the participants. Any further contact between partners is at their own will and is not expected. The results which are expected to occur are that 1) attachment style will have a significant effect on the perceived closeness even in non-romantic adult relationships 2) securely attached individuals will have an overall closeness greater than the insecurely attached individuals 3) women in both groups (women/men and woman/woman pairings) will have a greater feeling of closeness 4) the closeness generating group will experience greater closeness than the small talk group.

The Effects of Dance and Classical Music on Emotion

James Fulks, Eric Gee (Mentor)

Based on prior research there is a correlation between the characteristics of people who like certain types of music. Those who preferred high arousal (highly energetic) music such as Rock or Dance music had low moral thought. Those who preferred low arousal music (not very energetic) tended to be more conservative. We want to add to the evidence that music affects behavior, by testing how emotions are effected by music. Using a posttest-only control group design, we will test to see what affects Dance music and Classical music have on positive and negative emotions. Participants will be gathered from a student sample at Brigham Young University Idaho. There will be three groups, Dance music, Classical music and No music. Participants will be given work sheets of simple addition and subtraction problems to work on for a period of 15 minutes while they either listen to classical music, dance (party) music or simply work on the problems without any music for the control group. At the end of fifteen minutes participants will take The PANAS-X questionnaire and asked to indicate how much they enjoyed the music. The results of all three groups will be compared to see what effect these types of music may have on emotion. Our hypothesis that dance music will lead to negative emotions will be shown to be true if the group listening to dance music indicates more negative emotions and less positive emotions than the control group and the classical music group. We are also interested to see if the classical group indicated more positive and less negative emotions than the other groups.
The Effects of Flavor on Helping Behavior

Mikayla Bloomquist, Eric Gee (Mentor)

Studies have been conducted showing that sweet flavored-foods cause people to behave more pro-socially. This paper attempts to show that there is a link between bitter flavors and reduced pro-social behaviors. Because the bitter flavor seems to be opposite to sweet in our minds, it would make sense that reduced pro-social behaviors occur. Participants in this study were put into 1 of 3 groups (bitter, sweet, and control). After partaking of the flavor substance participants were observed to see the number of seconds it took them to initiate help on a jigsaw puzzle to their partners. After the data is collected and analyzed it is hypothesized that the participants in the bitter group will have a longer wait time before the initiate help than the sweet and control groups. This kind of information could be helpful in changing the kinds of foods we eat in order to adjust our social behaviors.

The effects of stress and rewards on attention to detail and change blindness

David Hackett, Eric Gee (Mentor)

This research study will be conducted in order to measure the effects of stress and rewards on attention to detail and change blindness. The independent variables in this study, stress and rewards, are hypothesized to have an opposite effect on the dependent variables, attention to detail and change blindness. It is hypothesized that stress will have a negative effect on both dependent variables, and that rewards will have a positive effect on both dependent variables. When both independent variables are induced to participants, it is expected that their opposite effects will counteract and the participants will perform similarly to the control group. Participants will be asked to examine two different pictures and report how many items in the picture they are able to locate. The first picture is of a nature scene used to measure participants’ attention to detail. Participants will be asked to find all 13 of the hidden faces within the nature scene and record the location of each face. The second picture is a dual-scene of Snow White and several of the seven dwarfs intended to measure participants’ change blindness. The two Snow White pictures contain slight differences that the participants will be asked to spot and record. There will be four groups in this study including three experimental groups and a control group. One experimental group will be asked to complete these two tasks while being constrained by a time limit. The purpose of this time limit is to induce stress. Another experimental group will be asked to complete the task and will be promised rewards if they perform well. The rewards are used as external motivation that may change the participants’ performance. The last experimental group will be both constrained by a time limit and promised rewards for good performance. The control group will receive neither of these independent variables. This study will take place in classrooms on the BYU-Idaho campus with recruited, and randomly assigned, student participants.
The Effects of Violent Media on Short-Term Memory

Isidora Perisic, Eric Gee (Mentor)

The purpose of this research is to see if those individuals watching violent videos will tend to recall more violent words, compared to those watching non-violent videos. The proposed study will include a short-term memory test where those violent and non-violent words will be displayed. The study will investigate if those individuals watching violent media will memorize more negative and violent words, and those watching non-violent media will memorize more positive and non-violent words. Participants will be recruited from psychology department classes at Brigham Young University – Idaho, with the age range between 19 and 25 years old. The participants will be randomly assigned into two groups; one group will be watching a violent video and the other group will be a control group. The control group will be under the same conditions, but will be watching a funny, non-violent video. The videos will be watched for about three minutes with no distractions. Right after watching a violent video, all participants from that group will have to take the short-term memory test, which consists of twenty words. Words will be presented separately, with 2-second break after each word, and during that break a blank screen will be presented. After all participants in the violent video group (VVG) are done with taking the short-term memory test, the control group will go through the same procedure but will watch a non-violent video. All the participants will then have to recall as many words as they can. This short-term memory test will show if the participants that watched a violent video have a greater chance of recalling more violent words than the control that watched a non-violent video.
A descriptive study of a behavioral measure of theory X and theory Y.

Jacob Pfleger, Eric Gee (Mentor)

The purpose of this study is to adapt the Theory X and Y behaviors, which Kopelman, Prottas, & Davis (2008) had subjects self-report, into observable behaviors. Observing these behaviors in a work-like situations and comparing the results with the participant’s self-reported behaviors will help bring validation and power to the survey created by Kopelman et. al. Volunteer managers over the different branches of a student run organization will be asked to participate. Only the volunteer managers that have weekly meetings with their councils will be used in the study. The full time director of the department will be asked to participate as a confederate in recruiting the branch managers and their councils and assigning their tasks. Participants will have an age range of 18-25 and be students at BYU-Idaho. The volunteer councils will be asked to come up with a plan to reorganize the department’s structure. Each council director’s interactions with their council members under them will be rated by researchers with the Theory X and Y behavioral scale. The director of each council will also take a survey rating their level of agreement with Theory X and Y management behaviors. These results will be compared and described.

Church Activity and Depression

Katelyn Hinton, Eric Gee (Mentor)

Religion has been a part of the world since man-kind has inhabited the planet. It provides a belief system that individuals are able to put their faith into. Religion often lays a foundation for a network of standards that people are able to live their lives by. It gives them a sense of a moral code. The general public tends to be taught this moral code derived from religion from the moment they are born. It is thought that if a person disobeys or goes against these standards that they have been taught to live by, it may actually cause a person to experience some form of depression (Martin, 2013). Others have found that some aspects of church might actually increase the risk of depression (Chou, Hui-Tzu Grace). Unfortunately, it isn’t popular in society to discuss ones religion or their beliefs surrounding it which may lead to less faith. Studies have shown people are less likely to be active in their beliefs and share it with others as they age (Barna Group, 2010). This steady inclination of inactivity within religious beliefs and services may be a contributing factor of depression in our society today. It is proposed that implementing more church attendance and religious activity into an individual’s life will help to battle depression (Longo, Kim-Spoon, Jungmeen, 2013). It has been found that having a spiritual discipline does aid in a reduction of depression in some cases (Jo, Young Sung). It helps to provide a sense of support. There has not been a meta-analysis done specifically on this topic before. Participants from all geographical regions and ages are eligible for this meta-analysis. There are no restrictions on culture or geographical areas, but will be focused on primarily the United States of America. The date range of the studies done will be done in two different sections, old and new. The main search engines used in this meta-analysis will be Psychology and Behavioral Sciences Collection and PsychINFO databases. The main methodology used will be correlational, but others may be looked at as well. The search will be done mostly electronically, but some articles will be used through other means if necessary.
Does money impact our ability to care for others?

W. Jordan Charles, Eric Gee (Mentor)

Paul Piff conducted a study at Berkley with a rigged Monopoly game (where one person gets $200 from passing GO and starts with $2,000 and rolls two dice. The other person gets half of the money to start with, half when passing GO and half the dice to roll). In his study, Piff found that whoever had the most money behaved in a way that showed a decreased empathy towards the other person. However, he did not measure empathy with self-report questionnaires, a difference accounted for in this replication. We hypothesize that our results will be in line with what Piff found and that participants will score lower on the questionnaire after they have played the rigged Monopoly game. The way we will get our data is we will have participants play the rigged Monopoly game. We will use the pre-test, post-test, and random assignment design. We will use a questionnaire to measure how much empathy a person has before and after playing the rigged Monopoly game. If participant’s scores are statistically different from the pre-test and post-test, then we will conclude there is an effect.

Effect of Organizational Culture on Self-Control

Jacob Wilhite, Eric Gee (Mentor)

Researchers have found that many jobs, particularly those which provide service, demand a great amount of self-control. When self-control becomes depleted in the employee, it causes a great deal of burnout. Because self-control cannot be prevented in these circumstance, this study investigated the effect of an organization’s culture on the individuals that associate themselves with the organization. Ghorbanhosseini (2013) found that organizational culture has a significant impact on human capital, which includes personality attributes. This study replicated a study conducted by Muraven, Pogarsky, and Shmueli (2006) which found that students from a public university in the northeastern United States were more likely to cheat after a self-depletion task. The differences between this study and the study conducted by Muraven, Pogarsky, and Shmueli (2006) is that this study contained a sample from a private, religious university. Brigham Young University- Idaho (BYU-I) is a unique university which holds its students to high moral standards. The differences in the cultures of these two schools is hypothesized in this study to influence the rates of students cheating.

Exposure to Religious Beliefs and Self-Esteem

Hans Marcusen, Eric Gee (Mentor)

There are many things that affect one’s self-esteem. One thing that potentially affects it is religion. Chadwick, Top, and McClendon (2010), three professors from BYU, conducted a study among Latter-day Saint adolescents. They found that religiosity was positively correlated with self-esteem. The purpose of this study is to find out how self-esteem is affected by religion. Experimental methods will be used to determine this. There will be three groups. Participants will be randomly assigned to one of the three groups. Two groups will be exposed to different LDS doctrines and another group will act as a control group. One of the groups will be exposed to the belief of the Atonement, one of the most important doctrines of the church. They will read the text about it from true to the faith and then take the Rosenberg Self-Esteem Scale. The other group will read a few paragraphs from Wilford Woodruff from Teachings of Presidents and then take the self-esteem scale. It will come from chapter 10: Humble Reliance on God. The third group (control) will just take the self-esteem scale. I hypothesize that the groups who are exposed to these doctrines will have less self-esteem when taking the scale than the control group.
Undeserved Praise and its Effects on Entitlement

Cole Evans, Eric Gee (Mentor)

J. Zaslow of the New York Times identified the most current generation as “self-centered, and needing more praise and recognition than ever before” (2007). Entitlement in university students has recently manifested itself in many forms including the inability to academically connect with professors (Lippman, 2009), demand increased for higher grades students feel they deserve from teachers (Greenberger, 2008), and a prevailing sense of narcissism in the workforce once out of college (Rose, 2014) just to name a few. Despite knowing that these are the telltale signs of entitlement, the question remains as to where these social symptoms are coming from. Researcher Jared Lessard reports a correlation between these emerging behaviors in question and a pervasive rise in self-esteem (2011), no doubt related to themes of endless acclaim effortlessly awarded to them by their parents and mentors as reported by Campbell, (2004) and . Not everyone falls under this generational stereotype, but it is important to gauge on a collegiate level this supposed epidemic and whether it is encouraged by the rising self-esteem fed to students by parents and mentors. My study will be to confirm these last two observations made by Lessard (2011) and Campbell (2004), that is, whether the rising sense of entitlement is being caused by increased self-esteem that is fed by inflated praise. I will provide an experimental group of students that will receive high amounts of undeserved (unearned) praise in an attempt to instill brief self-esteem. To see if self-esteem has risen, the participants will be tested using a traditional form of self-entitlement established by Rosenberg (1965). A control group will also be tested using the same Self-Esteem test, but without the self-esteem boost independent variable. I predict that even after a short treatment of undeserving praise that a feeling of deserving more than students may already possess, which will be measured by the psychological entitlement scale (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004) [PES], will be higher than when compared to a control group’s scores.
Age and Crime

Jill Wynn, Tiffany Jenson (Mentor)

The purpose of this study is to examine relationship between committing delinquent acts as a juvenile and the impact it has on the likelihood of participating in criminal activity as an adult. Data was collected from waves I and IV of the National Longitudinal Study of Adolescent Health (Add Health). The data was chosen to be analyzed from this study because it is longitudinal in nature. The data in wave I was collected from 1994 to 1995 and the data in wave IV was a follow-up study with the participants from wave I and was collected from 2008 to 2009. At this point in time, the results for this study are still pending. However, this study will provide further insight into the stigmatizing label that juvenile delinquents face and how it leads the juvenile to become more susceptible to continue the pattern of criminal or antisocial behavior as an adult.

Age of Mass Murderers and the Location of their Crimes

Casie Youngberg, Tiffany Jenson (Mentor)

Over the last 50 years, the phenomena of mass murder has been occurring more frequently with an increased number of victims per occurrence and with younger offenders (Lester 2002; Lester 2004; Mullen 2004). Despite this, there has thus far been very few academic works published on the topic of mass murder. The little research that has been done, has contributed a profile typical of many of the mass murderers within the United States in the last fifty years. Similar to serial killers, mass murderers are frequently white males who spend significant amounts of time planning every detail of their crime, including the location where they will commit the crime before executing their plan (Fox and Levin 1998). This study seeks to add to the growing body of criminological research by examining how the age of individuals who have committed mass murder, influenced the location that they selected to commit their crimes. Due to lack of existing available data, data was collected and analyzed by the researcher from reputable published news sources from the last 50 years. Results pending.

Education and Police Officer Salaries

Fred Stephenson, Tiffany Jenson (Mentor)

This paper examines the impact of education on police officers and whether not it affects their salaries. The Law Enforcement Management and Administrative Statistics (LEMAS) from 2007 was the data set used for this study. When a police officer enters the academy, it is hard for them to advance with an associate’s degree or less. The candidates who further their education seem to make more money and have an easier time ranking in positions. We will be able to tell how education is impacted on officer salaries and if the system is skewed in anyway. The results of this study are still pending and will be available of a later date. Suggestions and implications for future research will be discussed. (Through the analysis, I will be able to tell the relationship between education and officer salaries. I am interested to see if it is supported or if there are other effects on the salaries through my findings.)
Strictness of State Concealed Carry Laws and Violent Crime Rates.

Cale Yount, Tiffany Jenson (Mentor)

This study examines the effects of concealed carry laws and violent crime rates per state, providing further support and replication of past research analyzing this relationship, as well as adding new ways to examine concealed carry laws per state and crime rates per state. Data was collected from the FBI crime statistics 2012 and The Brady Campaign 2013. The Federal Bureau of Investigations collected the data through the Uniform Crime Report (UCR) program. The data collected provide the reported violent offenses and rate of crime per 100,000 inhabitants in each state. The Brady Campaign collected, recorded, and ranked data from each state according to strictness of concealed carry laws. This study utilized specific measures from the original 30 including background checks, waiting periods, vehicle carry, school carry, registration of firearms, and stand your ground laws. The results of this study are still pending and will be available at a later date.

Terrorism a Danger to the World

Bryan Carver, Tiffany Jenson (Mentor)

The following study explains the importance a United States military presence has in countries around the world, and strives to prove that the United States presence in a country increases the death toll of terrorists’ attacks. One of the biggest terrorist attacks known as 9/11, happens to be one of the main reasons why many wonder about terrorism. As a result of September 11 many scholars have tried to explain reasons behind terrorist attacks, but have little evidence explaining deaths in terrorist attacks. This study shows death to be a huge factor in terrorism. This data was collected through various governmental websites that focused also on population, government type, religion, region, economic freedom, and GDP. Increase death toll of terrorist attacks were proven in this study to have a significance due to an expansion of United States militia. The research proves that more tension is present and inevitable in countries that have disagreed with the United States culture and manner of life. United States influence in other countries causes tension with terrorist groups similar to the type of group that attacked the United States in 9/11. These are areas where conflict has been present for years and this study could be used to maybe even help prevent hostility and death from terrorism in the world.
Influence of Adolescent Work on Adult Socioeconomic Status
Monica Evans, Tiffany Jenson (Mentor)

With over 3 million youth between the ages of 16 and 18 employed in the United States, countless parents wonder if they should allow, discourage, or advise their teenager to work (U.S. Bureau of Labor 2013). Contradicting research concerning the long term effects of working as an adolescent has led to much confusion and debate about the benefits and drawbacks of working as an adolescent. This study uses the National Longitudinal Study of Adolescent Health, both Wave I (1994-1995) and Wave IV (2008-2009), to examine the question whether working as an adolescent has any relationship with socioeconomic status as an adult. Results are pending. When complete, this study will contribute to information concerning the long term effects of employment as an adolescent, which are currently relatively scarce because of researchers’ current focus on immediate or short term effects of adolescent employment. Understanding the relationship between working as an adolescent and adult socioeconomic status could help both parents and teenagers when making decisions about employment.

Marital Status and the Bystander Effect
Matthew Marquez, Eric Gee (Mentor)

Abstract Previous research of the bystander effect and helping behavior has been rather thorough. Findings from previous research suggest that gender is a highly moderating factor. This study seeks to answer the following question: “Does marital status of the victim affect helping behavior in a mild need, bystander situation?” It is hypothesized that single women are more likely to help single men. 60 unmarried female participants will be selected from Brigham Young University Idaho students using a blend of simple random sampling and convenience sampling. Participants will be placed in a mild need situation where a victim takes a fall in front of participants in the presence of research confederates who are instructed to remain apathetic. Helping behavior will be observed and data will be recorded. A one-way ANOVA statistical test will be used in order to test data. Results could show that a possible motivator for helping behavior is flirtation. These findings could help prompt future research by providing several more research questions, as well as providing opportunities to investigate different aspects of this study more deeply.

Parent-Child Relationship impact Juvenile Delinquency
Michele Atchison, Tiffany Jenson (Mentor)

This study examines the association between parent-child relationships and the impact it has on juvenile delinquency. The data set used for this study was the National Longitudinal Study of Adolescent Health (Add Health), wave II, which was collected between April and August of 1996. A healthy parent-child relationship is a primary group that is essential for healthy development of a child. In the family unit, social roles, values, attitudes and beliefs are learned (Blumer 1980; Demo, Small and Savin-Williams 1986; and Solomon 1992). Data suggests that a statistically significant connection exists between parent-child relationships and juvenile delinquency. The research offers additional support for past research on the subject and ultimately shows the importance of parent-child relationships when dealing with delinquency rates. This may also affect future generations as family dynamics are changing and the amount of parental supervision, communication and time spent with children is decreasing. This may also influence society as mothers are working more out of the home, causing strain on the relationship with their children.
Religion and Premarital Sex

Karissa Wilkinson, Tiffany Jenson (Mentor)

Past research suggests that the impact religion is having on premarital sex is decreasing, this study looks into whether or not an adolescent’s strength in religion impacts if they will have premarital sex. This study includes oral sex as part of premarital sex. Data was collected from the first wave of the National Study of Youth and Religion. In the early summer of 2002 a random-digit-dial telephone survey was used to interview youth and their parents. 3,370 cases were completed. Interviews consisted of discussions concerning the respondents religious, spiritual, family (including the amount of parental supervision), and social lives (including their involvement in sexual activity). Results are still pending. This study looks to add to the existing information that an adolescent’s religiosity impacts whether or not they will engage in premarital sex. It will add about how the importance of the religion for the adolescent impacts their choice to engage in premarital sex of any kind.

Socioeconomic Status and Health

Jason Cook, Tiffany Jenson (Mentor)

The focus of this research is to demonstrate the correlation between an individual’s general health and SES (socioeconomic status). Education, income, and occupation are key elements used to create a measurable variable to define SES. Many studies suggest and have shown, that as an individual has a low SES that individual will have poor general health. The data used in this study comes from General Social Survey 2012. Results are still pending. This research will contribute by showing that programs such as teacher mentoring to support and encourage socioeconomic growth will enable individuals to have the tools and skills necessary that will enable them in increasing their SES standing. The relevance of this data may allow us to understand why individuals are able to have excellent health, while a large percentage are suffering from poor general health. This research may also encourage and inspire more focused oriented programs or ideas to aide with this issue.
An Other Brick in the ‘Facebook Wall’: Social Networking Sites’ Impact on Employment Status

Cory Sessions, Tiffany Jenson (Mentor)

In a wage-labor market, steady employment is vital for human survival. Recent media buzz has suggested that employers have adopted the practice of prescreening job applicants via their social networking sites (SNSs) such as Facebook, LinkedIn and Twitter. Prescreening employers search their applicants’ SNS profiles with the intentions of weeding out ‘unfit’ candidates. This study samples youth ages 17-24, using data from the National Survey of Youth and Religion (NSYR) to analyze SNSs’ impact on employment status. Results of the study are pending. As young adults prepare themselves to enter the working world, appropriate SNS knowledge and usage may be key to their success however, research in this area is lacking. This study analyzes SNS usage, measured in site visitation frequency, and current employment status. The study contributes to the literature in that it provides previously non-existent statistical evidence on whether SNSs truly have an impact on employment status and uses sociological theory to explain results.

How does exposure to violent video games influence juvenile delinquency and why?

Eli Menet, Tiffany Jenson (Mentor)

How does exposure to violent video games influence juvenile delinquency and why? Abstract The following study examines exposure to violent video games and their potential influence on juvenile delinquency. It will provide further support from previously conducted studies on the matter and will examine the topic to such a degree so as to bring to light other potential factors when studying the subject. Data collected from the 1st and 3rd waves of the National Study of Youth and Religion was collected. Wave 1 was collected from July 2002 until April 2003 using a random digital dial method to household telephones in all 50 states which drew numbers from households that had at least one teenager. The final sample consisted of 3,370 teenagers and their parents. Wave 3 was a follow-up interview conducted nearly five years after wave 1. It consisted of 2,532 of the original wave 1 respondents. The pertinent content of the interviews consisted of: Religious participation, social activities (such as violent video game play and delinquent behavior), and parental relationships. Results and development are still pending and will be completed shortly.

Messages conveyed in rap music

Eric Cabrera Martinez, Jenson Tiffany (Mentor)

Past research suggest that listening to uplifting music can have a positive impact on cognitive behavior and the likelihood to engage in wholesome activities are greater. Little it’s known about the influence of non-uplifting music on individual’s behavior. This study examines the influence of rap music and engagement of risky behaviors, expanding on past methodology and by analyzing measures of risky behaviors. Data was examine using the General Social Survey (GSS) survey (n=1606) the GSS administered a questionnaire to randomly selected adults and the sample was selected from a population of English-speaking households in the United States. Results are inconclusive as of now, the data is still being analyze and will be available at the conclusion of spring semester 2014. The research done in this study will contribute to the literature about whether or not there is connection between rap music and risky behaviors and if the messages conveyed in rap music have significant implications for an individual’s tendency toward risky behaviors.
Social Media & Delinquency
Jerimya Pectol, Tiffany Jenson (Mentor)

Abstract This study examines the effects of social media on delinquency, with support and replication of previous research done on older forms of media to analyzing the relationship, as well as to adding newer forms of media such as social media to examine that relationship from past to present. Data was collected from Monitoring the Future. From wave 2012, a random sample of 250 schools were selected in which they agreed to participate in this survey with a total of 31,106 students in the eighth and tenth grades. Interviews discussion consisted of the respondents age, gender, church attendance, parents present, environment location and friends. This study focuses and contributes to the research already done on the effects of older types of media on delinquency by adding in newer results based on newer types of media like social media. Results are pending at this time as research continues.

Violent Media Exposure Impacting Child Behavior
Lacey Parham, Tiffany Jenson (Mentor)

Children are constantly being exposed to violent media on a day to day basis whether they know it or not. Violence is flooded in our television, movies, music and video/computer games. Through these sources, children learn that violence is acceptable and eventually emulate what they have seen. Research has indicated that viewing violent media can contribute to desensitization towards violence, increase in aggression both long term and short term, and a decrease in helping others. As children continue to increase their time spent with violent media, it will also increase their engagement in violent behaviors. There are many different sources of violent media that it can be difficult to determine the source of impact. Through this study, a connection between various types of violent media and a child’s violent behavior will be found by analyzing the data set from ADD Health wave 1. This data was collected through both In-Home and In-School questionnaires given to students. With bringing awareness of these effects, we will then be able to prevent these negative outcomes and instead instill correct behavior patterns.
Does a woman’s education level influences her likelihood of being sexually assaulted?

Brianna Francis, Tiffany Jenson (Mentor)

Sexual Assault is a heavily discussed and analyzed issue in our culture as it has become more prevalent and recognized. It is important to try to find some of the correlating factors that lead to sexual assault so that it can be prevented in the future by minimizing the risk of sexual assault in those correlating factors. A woman’s education level has not commonly been directly studied in connection with sexual assault, and so that is the focus of this study. The data used for this study has come from the 2013 National Crime and Victimization Study dataset, which focuses on victims of crime in the United States. The results of this study are still pending and will be available at a later date. The relevance of this data may allow us to understand if there is a connection between a woman’s education level and how likely she is to be sexually assaulted. By understanding the results of this study, we may be able to help direct our educational programs in the United States in preventing sexual assault.

Gangs and Substance Abuse

Joseph Langi, Tiffany Jensen (Mentor)

Gangs have been receiving attention through the media with much of that attention focused on the violence and drugs associated with this sub-culture. Kay Pin and associates (2008) have reveals that gangs control drug trafficking. This paper will be observing the connection between individuals who commit to gang membership and the effect it may have on their level of illegal substance abuse. Frank Esbensen and David Huizinga (1993) in their study of gangs, drugs and delinquency found that knowledge about gangs has come from data obtained from police gang units and from observational or case studies but not from many surveys or interviews. In this paper, data from the National Longitudinal Study of Adolescent Health (Add Health), wave 2 from 1998 will be used in this study to measure these variables (gang membership and illegal substance abuse). The findings and results for this study have not been completed and will be updated at a later time. This study would contribute to the little findings we have on the relationship between gang membership and illegal substance abuse.

How Does Domestic Abuse Among Single Women Impact Their Likelihood of Alcohol Dependency and Why?

Alexandria Shillingburg, Tiff Jenson (Mentor)

Research indicates that alcoholism and domestic abuse are directly correlated. Studies on these subjects have shown that domestic abuse is a predictor of alcohol dependency among single women. Many theories suggest that alcoholism is a method of coping with the negative mental health conditions that have been caused by domestic abuse. The data used for this study came from Wave I and Wave IV of the National Longitudinal Study of Adolescent Health (Add Health). The purpose of this study is to better understand how domestic abuse victims are impacted by alcohol dependency, to be able to help inform other sociologist and the public, and be able to find a possible solution. The negative mental health problems that are associated with alcohol dependency impact the lifestyles of the domestic abuse victims. The information that will be given will conclude the findings and results sections of these variables at a later time.
How Does Sexual Violence as a Deviance Affect the Quality of a Romantic Relationship and Why?

Karla Hope, Tiffany Jenson (Mentor)

The present research explored how sexual deviances affect the quality of romantic relationships. The sexual deviances that were selected are masochism and sadism. The definition of quality of romantic relationships are described as a relationship based on the fundamentals of good communication, fulfilling physical intimacy, and mutual feelings of love and commitment between individuals. Theories also explain that these preferences can damage the quality of the romantic relationship, by experiencing feelings of distress and shame, when involved with a partner that sees these behaviors as inappropriate or strange since the enactment of such behaviors can only exist with the mutual agreement of individuals. The data used for this study comes from the International Dating Violence Study from 2001 to 2006. The main purpose for this study is to further understand if violent sexual deviances such as masochism and sadism can possibly effect the quality of romantic relationships. The results of this study are still pending and will be available at a later date. Its findings will provide further evidence if individuals with these tendencies need therapy in order to repair their romantic relationships.

Social Support Systems and Their Effects on the Self-Concepts of Victims of Childhood Sexual Abuse

Deserie Sanders, Tiffany Jenson (Mentor)

Research literature indicates that childhood sexual abuse affects the victim’s self-concept. Additional research including individual stories of victims of childhood sexual abuse lead to the inquiry of why the effects on the victim’s self-concept were so varied. In this study we examine the quality of the relationship that the victim of childhood sexual abuse has with their social support system and how this relationship affects the victim’s self-concept. The data for this study was collected from the first and fourth waves of the Longitudinal Study of Adolescent Health (Add Health). In analyzing this data, results indicate that there is a statistically significant relationship between the quality of the relationship of the social support system and the self-concept of victims of childhood sexual abuse. In this study we provide support for previous sexual abuse literature as well as contribute to addressing the improvements needed to assist victims of sexual abuse in overcoming the repercussions of the abuse.